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The Wisconsin Medical Journal

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A Monthly Journal of Medicine and Surgery

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The Wisconsin Medical Journal

Volume XIII MILWAUKEE, JUNE, 1914 Number 1

ORIGINAL ARTICLES

THE SERO-DIAGNOSIS OF PREGNANCY.*

BY CHESTER M. ECHOLS, M. D.,
MILWAUKEE.

"Time will tell" was the answer our fathers and grandfathers in medicine gave to the inquiring woman anxious to know whether she was pregnant. After the refinements of bimanual examination came into vogue, the physician was able to make a shrewd guess at the diagnosis. I say "guess" advisedly, for that is really the best we have been able to do up to the present time so far as the first half of pregnancy is concerned. Luckily for the patients, it is not often of such vital importance to make an immediate diagnosis, as it is in malignancy and some other conditions, and therefore the old dictum "Time will tell" has generally satisfied the necessities of the case, even if the patient's anxiety and our curiosity had to wait events. Certain exigencies, however, arising in the practice of medicine and surgery make it of the utmost importance that we know definitely whether a woman is pregnant. To illustrate, we need only to recall the difficulties of recognizing ectopic gestation, or pregnancy complicating uterine fibroids, or cases of suspected abortion, to say nothing of the medico-legal questions hinging on the diagnosis of pregnancy.

In the absence of any known pathognomonic sign or symptom of pregnancy in the earlier months, it is not surprising that the announcement more than a year and a half ago of the discovery of a reliable method of serum diagnosis of pregnancy was received with the greatest interest by the medical world; especially when the announcement came from so high an authority as Abderhalden, Professor of Physiology at the University of Halle. His discovery which came as the result of years of study in the field of digestion, assimilation, and metabolism may be conveniently paraphrased in the following dogma; namely, that the serum of a pregnant or recently pregnant woman has the power of digesting certain portions (proteids) of the cooked human placenta (or its membranes), whereas the blood of a man or of a non-pregnant woman has no such power of digesting any part of the placenta. It follows, therefore, that the test is primarily one of digestion.

In carrying it out, one adds a definite amount of the serum to be tested to a small quantity of the cooked human placenta. If, at the end of a stated interval, any digestion of the placental proteids has taken place, then, according to Abderhalden, the woman is pregnant, or has been very recently. If, on the other hand, no digestion of placental proteid occurs, the woman is not pregnant, provided, always that the technic has been flawless.

How the blood of a pregnant woman comes to acquire this power of digesting placental proteids is an interesting problem and its explanation requires a little digression upon the subject of digestion and metabolism. In this discussion some of the statements may appear very trite and elementary to some of you, but it seems best to give them in the interest of clearness.

The proteid molecule is exceedingly large and complex. Its molecular weight is enormous. Under normal conditions it cannot pass through an animal membrane, like the intestinal wall, nor through an artificial dialysing membrane. This is due not so much to the large size of the molecule as it is to the fact that it belongs to the colloid group of non-crystallizable substances. Accordingly we find that the proteid molecule in the course of normal enteric digestion is broken up into peptones whose molecules are not only smaller, but are also crystallizable and therefore dialysable. The peptone molecule in turn must be broken up into further cleavage products, mostly amino-acids, before it is capable of being assimilated by

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 2, 1913.

any of the tissues of the body. The final stages of proteid digestion, then, occur outside the intestinal tract, (in the liver, blood stream, etc.,) and are collectively known as par-enteral digestion. We might aptly compare the proteid molecule to a huge chunk of anthracite coal, weighing several tons, as it comes out of the ground. Such a lump of coal will not burn in a stove, boiler, furnace, locomotive, or anywhere else. In short, it is absolutely useless till after it is broken up. When it is crushed and screened, we get the useful commercial sizes suitable for stove or furnace, and analogous in our simile to the amino-acids, which Abderhalden calls the ultimate "Bausteine," or building stones of the tissues. Our illustration falls short, of course, in that the proteid molecule differs from its cleavage products in chemical properties as well as in physical size and weight.

Sometimes the proteid molecule finds its way undigested and unchanged into the blood stream, either naturally, as in certain diseases, or artificially, as when serum is injected intravenously or hypodermatically. What happens when undigested proteids gain entrance to the general circulation may be illustrated by the case of a guinea-pig into whose veins a small amount of egg-white is injected. Now the proteid molecule, being as non-assimilable as the five-ton chunk of coal is incombustible, cannot be directly utilized by any of the body tissues. Thereupon the tissues, (chiefly the leucocytes, it is believed,) proceed to elaborate proteolytic ferments capable of digesting the offending invader. That is to say, parenteral digestion occurs. When the guinea-pig is first injected with the egg-white, parenteral digestion proceeds slowly, because there is no suppply of ready-made proteolytic enzymes in the blood stream. Hence there are no symptoms. If the injection is repeated after a fortnight, the guinea-pig promptly dies of anaphylactic shock, because by this time the proteolytic enzymes of the blood have increased to such a degree that parenteral digestion of the second injection takes place precipitately, thereby, as Vaughan believes, liberating large quantities of the "poison group" which he holds is present in every proteid molecule.

Now, what does all this have to do with the pregnancy test? It has been shown by Schmorl, Veit, and others, that syncytial cells from the fetal membranes or placenta may become detached and enter the maternal circulation. We do not know that such detachment of cells and villi occurs in every case, but it seems reasonable to suppose that in all cases of pregnancy some products of the fetal envelopes and placenta find their way into the mother's blood stream. Abderhalden reasoned that the presence of placental products as foreign proteins in the maternal blood should elicit protective enzymes in every way analogous to those produced in the guinea-pig following the intravenous injection of egg-white. Such, indeed, appears to be the case, for it has been demonstrated repeatedly not only by Abderhalden but by many other workers within the past year, that from an early period in pregnancy up to a week or so after its termination the mother's serum does contain enzymes which can be made to digest placental proteids in the laboratory incubator. This being the case it follows that a test for the presence of these ferments in the woman's blood may be a valuable means of diagnosing pregnancy, or rather of diagnosing the presence of placental tissue, provided of course that the test can be carried out with sufficient care and skill to eliminate error and the various fallacies.

The technic, of this test, like the automobile and the airship, has been gradual in development. Abderhalden himself has revised his technic from time to time, and I venture the prediction that still more changes will be suggested in the interest of accuracy. This probably accounts in large measure for the conflicting reports as to the value of the test.

My own work upon this reaction has all been done during the past eight months at the clinical laboratory of Marquette University, School of Medicine, and consists of a total of fifty-seven tests, with controls. All the steps of the tests I have attended to personally until recently when I have had the assistance of two laboratory helpers, Dr. Barta and Dr. Hanko. The earlier part of the work was very discouraging and unsatisfactory. In some instances women known not to be pregnant gave positive reactions, and *vice versa*.

DETAILS OF THE TEST.

The Placenta.—A fresh, full-term human placenta is washed as free as possible from blood, the cord and membranes cut away, and then cut up into pieces the size of ordinary marbles. The pieces are now washed two or three times in cold water or salt solution until no trace of blood stain is noticeable in the water. A small amount of

acetic acid may be added to the water to facilitate the solution of the red corpuscles. The pieces thus cleansed are now thrown into a quart or more of boiling water, to which a trace of acetic acid has been added. After boiling several minutes the pieces of cooked placenta are then removed and re-boiled in fresh water as before, using enough water to equal ten times the volume of placenta. The water in which the placenta has been boiled is now filtered and tested for the presence of peptones and amino-acids by means of a reagent called *ninhydrin,* presently to be described. If the filtered water gives a positive reaction to this reagent, the boiling must be repeated until the water in which the placenta is boiled gives a negative reaction, that is, until it contains no traces of peptone, albumin, or amino-acids. The pieces of placenta are now placed in sterile glass-stoppered bottles, covered with sterile water, and two or three cc. each of chloroform and toluol added. If placed in an ice box, the placenta thus prepared will keep for weeks or months ready for use.

The Reagent.—Abderhalden at first used and recommended the well known biuret test for detecting the presence of peptones resulting from the digestion of placental proteids. This was one of the sources of error among the earlier experimenters in this work, for the biuret reaction is not sufficiently delicate to detect minute traces of protein cleavage products. Later it was discovered that a chemical compound known as *triketohydrindenhydrate,* marketed under the trade name of *ninhydrin* by the Farbwerke-Hoechst Co., New York, is an ideal reagent for detecting traces of peptones and alpha amino-acids. (All the amino-acids resulting from proteid cleavage are of this type.) Ninhydrin is a white crystalline substance readily soluble in water, making a colorless solution. It stains the skin a deep purple color. It should be made up with distilled water to a one per cent. solution and kept in a dark place. For convenience in using I keep it in a glass-stoppered chloroform dropper. To test water for the presence of peptones or amino-acids I have found it most convenient to put 3 cc. of the water into a test-tube and add from the chloroform dropper one drop of the one per cent. solution of *ninhydrin.* Boil for one full minute. If the reaction is positive, a blue color similar to that of a dilute copper sulphate solution will result. If negative, the water will remain colorless or perhaps turn slightly yellow.

Jellinghaus and Losee found that mineral acids and alkalis will interfere with the action of ninhydrin. Richard Pearce informs me that he finds the acetic acid in the boiled placenta also interfers with the reaction and that he has therefore abandoned the routine use of acetic acid in the preparation of the placenta. This can be obviated of course by adding a few drops of ammonia to the last water in which the placenta is boiled. This latter precaution I have found superfluous, because I regularly re-boil the teased-out placenta just before using it, and this has proved sufficient.

The Serum.—From the first, Abderhalden insisted that the serum used in the test should not only be sterile but that it must also be *absolutely free from hemoglobin.* To the beginner this may be a difficult part of the technic, especially if the blood must be transported a considerable distance from the patient to the laboratory. When patients are in a hospital equipped with a good electric centrifuge, the blood should be drawn from the median basilic or cephalic vein directly into a sterile centrifuge tube, using aseptic precautions, and subsequently centrifuged until the clear serum is separated. As the blood in practically all of my cases had to be transported some distance to the laboratory, I have generally used a large ground-glass syringe and withdrawn 15 to 20 cc. of blood and immediately transferred it to sterile test tubes. After allowing it to clot firmly the edges of the clot are gently separated with a sterile wire from the edges of the tube and the tubes are then placed in an ice-box for two hours, when the clot will be found to have contracted, leaving clear serum which can be pipetted off when ready to use. This furnishes more serum than is needed, but better too much than too little. My tests have nearly all been made the same day the blood was withdrawn, but I have found that keeping the serum in the refrigerator for twenty-four hours before using it in no way impairs the accuracy of the test. Williams and Pearce have kept it for a week without impairment.

Dialysers.—The dialysers used in this test are made of heavy parchment paper in the form of thimbles or tubes. The best dialysing tubes are made by the German firm Schleicher & Schuell and are obtainable through the Arthur H. Thomas Co., of Philadelphia. Since Abderhalden's test

has come into use, the demand for reliable dialysers seems to have caused the manufacturers to improve the quality of their tubes, and those now put out under the designation 579A are fairly satisfactory, although they must all be carefully tested and the defective ones thrown out. The tubes must have two essential qualities: First, They must be absolutely impermeable to proteids (colloids); and, second, they must be permeable to peptones and amino-acids (crystalloids). The tubes should be soaked in water for several hours till they are softened and then a silk thread six inches long passed through the edge of each tube to facilitate handling. I label my tubes A, B, C, etc., with an indelible pencil, and the holes in my test tube racks similarly. This helps to avoid errors. The tubes should be sterilized before using by boiling for a few minutes, and when not in use should be kept submerged in water.

Containers.—In making the test the dialyser containing the serum and placenta is placed inside a glass tube containing a quantity of distilled water. For this purpose I find it best to use large test tubes an inch in diameter with the lower ends *rounded* instead of flat. This tends to keep the dialyser in the *middle* of the glass containing tube. Otherwise the adhesion of the dialyser to the side of the glass may interfere with dialysation.

Testing the Dialysers.—As above stated, the dialysers must be *permeable to peptones* and *impermeable to proteids.* I have tested all my tubes for impermeability to proteids by placing in each three to five cc. of sterile hydrocele fluid, horse serum, or human serum. They are now put inside the large glass test-tubes or containers, each containing ten cc. of sterile, distilled water. A few drops each of chloroform and toluol are now dropped into the dialysers and in the water surrounding them. The containers are then stoppered and placed in an incubator for sixteen to twenty-four hours. At the end of this period those dialysers which give a negative ninhydrin test in the surrounding water, may be considered impermeable to proteids, and should now be tested for permeability to peptones. For this purpose one puts three to five cc. of a 1:1000 "Seiden" Peptone Solution (Hoffman-LaRoche, N. Y.) into each of the dialysers and repeats the test as above described. At the end of sixteen hours of incubation, all the dialysers which show a positive ninhydrin test in the surrounding water are permeable to peptones.

Testing for Pregnancy.—Our first care is to be certain that the placenta preparation to be used contains no dialysable substance. A piece of prepared placenta is first removed with sterile forceps from the stock jar and teased into fine bits in a porcelain dish. It is now boiled and if necessary re-boiled in about five times its volume of water, until the latter when filtered is negative to ninhydrin. About I gm. of the placenta is now put into a sterile (boiled) dialyser and 1.5 to 2 cc. of the serum from the woman to be tested is added. The dialyser is next placed in the test tube container, the latter having previously been filled to a 10 cc. level with sterile distilled water. With a few drops each of chloroform and toluol both inside and outside the dialyser, the container is ready to be stoppered and placed in the incubator. Instead of using cotton stoppers for the containers as recommended by Abderhalden and most others who have written on the subject, I use boiled cork stoppers which prevent evaporation of the volatile chloroform and toluol at incubator temperature.

With every test there must be at least one control, managed with great care. In my first twenty or twenty-five tests I used for controls serum from men, or from women known not to be pregnant. This is open to the objection that the blood of the control patient may contain enough amino-acids from a recently ingested meal, from cachexia, fever, etc., to give a faint reaction to ninhydrin. It is much better to use for the control inactivated serum from the same patient, and this has been the plan followed in the last thirty tests and with highly satisfactory results.

In preparing the control, care should be taken to use the same quantity of placenta and serum as for the test. The sterile distilled water surrounding the dialyser should in all cases come up to a higher level than the serum in the dialyser.

After incubating for sixteen hours we are now ready to test the water in the containers for peptones and amino-acids. Abderhalden at first recommended that 10 cc. of the water be boiled in a test tube with 0.2 cc. of the ninhydrin solution but it is much more convenient to use smaller proportions. I regularly use 3 to 3.5 cc. of the water and a single drop of the ninhydrin solution from the chloroform dropper. The exact amount of the water used is not of such vital importance pro-

vided the same amount is taken for the control as for the test. Throughout the entire procedure the *test must be treated in exactly the same way as the control,* except that for the latter the serum is inactivated. When only 3 cc. is used for the final test I find it unnecessary to use boiling sticks or chipped porcelain in the test tubes to prevent boiling over. I boil the water in both tubes simultaneously for one minute. At the end of a minute, if the test is positive, there is no difficulty in distinguishing between the color in the two tubes, but there is still a pronounced contrast between the test and the control.

In the foregoing description some of the minute details of the test have been omitted for lack of space. Those interested in undertaking work along this line are strongly urged to read the excellent and exhaustive article by Jellinghaus and Losee in the June (1913) Bulletin of the Lying-in Hospital of New York. Straus, McCord, and Williams and Pearce have also done excellent work on the dialysation test.

TABLE OF LAST 31 CONSECUTIVE TESTS.

Sex.	Month of Pregnancy.	Test.	Control.	General Condition.
1. Female	8th month	Positive	Negative	Healthy
2. Female	9th month	Positive	Negative	Healthy
3. Female	8th month	Positive	Negative	Healthy
4. Female	9th month	Positive	Negative	Healthy
5. Female	Not pregnant	Negative	Negative	Healthy
6. Male		Negative	Negative	Chron. appendicitis
7. Female	9th month	Positive	Positive*	Healthy
8. Female	9th month	Positive	Negative	Healthy
9. Female	8th month	Positive	Negative	Healthy
10. Female	7th month	Positive	Negative	Healthy
11. Female	9th month	Positive	Negative	Healthy
12. Female	Post-partum (6th day)	Positive	Negative	Not septic
13. Female	Post-abortion (3rd day)	Positive	Negative	Not septic
14. Female	8th month	Positive	Negative	Healthy
15. Female	9th month	Positive	Negative	Healthy
16. Female	7th month	Positive	Negative	Healthy
17. Female	Not pregnant	Negative	Negative	Fibroid of uterus
18. Female	8th month	Positive	Positive*	Healthy
19. Female	9th month	Positive	Negative	Healthy
20. Female	5th week (abortion)	Positive	Negative	Not septic
21. Female	9th month	Positive	Negative	Healthy
22. Female	Not pregnant	Negative	Negative	Healthy
23. Female	Not pregnant	Negative	Negative	Healthy
24. Female	Not pregnant	Positive	Negative	Pus tubes
25. Female	Not pregnant	Negative	Negative	Cancer of uterus
26. Female	8th month	Positive	Negative	Healthy
27. Female	9th month	Positive	Negative	Healthy
28. Female	9th month	Positive	Negative	Healthy
29. Female	7th month	Positive	Negative	Healthy
30. Female	8th month	Positive	Negative	Healthy
31. Female	9th month	Positive	Negative	Healthy

*In these two tests the serum was red with hemoglobin, and therefore these two tests must be thrown out.

although the distinction is more pronounced after cooling and standing for fifteen to thirty minutes. The positive test gives a pronounced blue color. If all the conditions have been strictly observed, the control should be colorless or slightly yellow. Under some circumstances the control may be a faint lavender color or even have a tinge of blue,

The optic or polariscope method of detecting cleavage products of proteids has not been referred to because I have had no experience with it. Moreover, this method presents certain technical difficulties which make it impracticable to use in an ordinary laboratory.

Within the past eight months I have made fifty-

seven tests, but in the accompanying table I have included only the last thirty-one for the reason that in the earlier half of the work the technic used was not sufficiently perfected to make the results trustworthy.

It will be seen in the accompanying table that most of my tests were made on advanced cases of pregnancy, but later I hope to report a series made in the earlier months. Of the twenty-four cases of undoubted pregnancy—including two cases of abortion and one post-partum case—all gave the positive reaction. Two cases gave positive reactions in the controls, but in these the serum used was red with hemoglobin. Of the seven non-pregnant patients, including one male, all except one gave a negative reaction both in the test and control. The non-pregnant woman giving a positive reaction was a case of pus tubes.

It is the concensus of opinion among nearly all laboratory workers who have had a large experience with this test, that with proper technic we should get a positive reaction in practically every case of pregnancy from the second month to term. On the other hand these same workers have all had the experience in their earlier work of getting positive reactions in a certain percentage of non-pregnant patients, especially if these patients are suffering from certain diseases. The work of Williams and Pearce, more than any other done in this country, threw cold water on the hopes of Abderhalden's followers by questioning the specificity of the test. To be sure, they obtained positive reactions in every one of their series of pregnant women, but they advise caution in the clinical use of the test until we have learned what conditions other than pregnancy are likely to give a positive reaction.

It is noticeable that with most workers the percentage of error diminishes with increased familiarity and experience with the test. Thus Jellinghaus and Losee of the New York Lying-in Hospital, two exceedingly careful and competent observers, in a personal communication dated Sept. 24th, state: "Our latest statistics with Abderhalden's most recent technic are as follows:

"Of 193 cases, 120 of whom were pregnant and 73 non-pregnant, 5 of the former reacted negatively and 6 of the latter reacted positively, which results (the errors) we attribute to faulty technic, for they occurred early in the series. * * * * It is our opinion that with properly tested dialysers, the results of the serum test for pregnancy depend entirely upon the placental albumin, its preparation and preservation. All our cases were followed up and confirmed."

Schwartz of St. Louis and McCord of Detroit, write that they have not had occasion to change their opinions as to the great value of the test since their last published communications.

SUMMARY.

While my own experiments have not been sufficiently varied to justify sweeping conclusions, they are confirmatory, so far as they go, of Abderhalden's claim that the dialysation test enables us to distinguish between the pregnant and the healthy non-pregnant woman. Further experimental work will be required to determine the fallacies of the test; that is, to discover what diseases or conditions, if any, other than pregnancy, will give a positive reaction.

The test will probably never be simple enough for the general practitioner to carry out, but there is reason to believe that when done in properly equipped laboratories, Abderhalden's biologic test will, in the course of a year or so, take its place with the Wassermann and Widal reactions in point of reliability.

DISCUSSION.

DR. WARFIELD: Mr. President and Members of the Society: I became interested in this test a few months ago and have tried it out in a limited number of cases. The fact that in the Milwaukee County Hospital we do not have so many obstetric cases as we would like to have, has not enabled me to carry on as much work with this test as I should like to have done. However, rather early in the experimental work that I was doing in confirmation of Abderhalden's test, I conceived the idea that if there were present ferments in the blood that could be shown by this test, I could see no radical reason why there should not be substances passed out in the urine that might show the presence of this test. So really I have given up the Abderhalden test, leaving that to others, and I have been confining myself to some very interesting experiments on the detection of what I supposed to be amino-acids and final products of proteolytic digestion in the urine. Now I have found in a limited number of cases that every pregnant woman has these substances in the urine, which can be tested for by this ninhydrin reaction; and strangely enough, and very interestingly enough, one of the doctors in town, Dr. W. G. Darling, was kind enough to give me a specimen from a woman who was suffering with a mild toxemia of pregnancy, with a high blood pressure and no albumen in the urine. I was rather surprised to find that in her urine there were, as recognized by the

test, very little of these dialysable substances. In two weeks after recovery from this toxemia another specimen showed a great quantity of these dialysable substances. Now of course, as you can see, that raises up a tremendously interesting question: Can we diagnose tne functional insufficiency of the kidney by means of this dialysing test? As Dr. Echols has told you, to do this test in the blood serum, is not an easy matter. In fact I should say it is a very difficult matter; but to perform this test with the urine is a comparatively simple matter, provided you have tested out your dialysers previously.

In this work I have used controls from various people, and have found that the ordinary individual with a normally functioning kidney does not pass out any of these substances into his or her urine. An interesting factor is that people with uremia pass out some of, apparently these same substances. At any rate, they are substances which are dialysable and which can be tested for by this ninhydrin reaction. I simply want to mention this because it opens up a field of most entertaining character, it seems to me, and problems are suggested which, as yet, I have not had time even to touch. I hope to carry on the work the following year with these dialysers, and I think that something interesting is going to come of it. If we can find a test which is simple, and which will enable us to prognosticate the onset of toxemia of pregnancy certainly we will have advanced a tremendous step in the protection of the pregnant woman. It is interesting in this connection also, that these substances disappear from the urine of the woman after she has been delivered, and although I have had only a very limited number of cases I have one which previously had shown during pregnancy a very noticeable test in the urine, 13 days after pregnancy showed practically a negative reaction; only a very faint reaction resulting. I really feel that this is not a discussion of Dr. Echols paper. I apologize to the Society for taking their time this way, but it is a matter that seems to me to be so interesting in connection with this Abderhalden test that I have claimed your Indulgence to bring it before you to-day.

Dr. Daniel Hopkinson: Mr. President, from the little experience that I have had with the use of dialysers in the Abderhalden test, it does not seem strange to me to find that we have such varied reports. Dr. Echols tells us that if the dialyser allows of the passage of peptones and amino-acids that it is efficient. I have found that not only must the dialyser be efficient in that manner, but the series of dialysers that you use must dialyse equally. If peptones and amino-acids pass through the dialyser in varied amounts, using the same dilution of peptone, one showing a strong ninhydrin reaction, and others but a slight ninhydrin reaction, it can be very well understood that should we use the dialyser for a suspected case, in which stronger dialysation took place, and the weaker one for a control of a positive and known pregnant case, an error would result, because the dialyser that dialyses readily might dialyse with a very much weaker dilution of peptones or amino-acids than is necessary in making this test. The test in itself requires to my mind the greatest of care; and it would seem to me that if it were possible to replace this by some form of complement fixation that would be really more specific. Micro-organisms might split up even the placental proteids, producing peptones and amino-acids that would be dialysable, and unless great care is taken to prevent the micro-organismal action during the period of stay in the incubator, which is at least from 16 to 24 hours, error may result. If there were some substitute test, such as a complement fixation, it seems to me that it would be more specific and reliable. At the present time we are trying to make an antigen, and if an antigen could be produced its efficacy would be more reliable than the using of a dialyser. If on the other hand we could estimate the peptones and amino-acids quantitatively without the use of the dialyser, I believe that this test would be less liable to error.

Dr. C. H. Davis, Chicago: During the past year I have been working more or less with the Abderhalden test, and I haxe enjoyed very much Dr. Echols paper to-day. But in his controls there is one suggestion which I think is worthy of consideration. Instead of heating his serum to destroy its proteolytic action, if he would place a double control on each test by putting straight serum in one dialysis tube and a piece of his placental tissue with distilled water in another, he would then know if the peptones passed through from the one with the distilled water, or if it came from the placental tissue. If it passed through from the straight serum he would know that he had the products of digestion in his serum, and that his test was worthless. The Germans who are working upon this have advocated that the serum should be drawn in the morning before the person has partaken of food, and in my tests I have found two or three cases where the reaction has been worthless because of peptones passing through from the control serum. The work that Dr. Warfield has undertaken is most interesting, and I shall be very glad to try his tests.

THE PRESENT INDICATIONS FOR VACCINE AND SERUM THERAPY.*

BY J. K. CHORLOG, M. D.,
MADISON.

As the basis for all active immunization we might express the hypothesis that there can be no protection without an infection, bearing in mind that infection does not necessarily mean disease, and that infection does not mean a virulent infection; also that immunologically speaking the introduction of the killed pathogenic agent may even be equivalent in its effects to an infection

That the introduction of the living virulent organisms into the body does very often confer

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immunity has been known as long as that micro-organisms have an etiological connection with disease; but the discovery that the same results can be achieved in many instances without the production of any serious disease, through the use of organisms whose virulence has been artificially reduced or even with dead organisms, is one of the glories of modern medicine.

We all know the story of how vaccine came to be introduced as a therapeutic agent against smallpox, and how the practice of vaccination was first brought to England, and the great opposition with which the practice was met. However, this wonderful therapeutic practice is one of the great turning points in the history of the medical art. The immunity developed is so generally recognized, that only heresy can account for a dissenting opinion. Smallpox, which was before vaccination was practiced, one of the scourges of the civilized world, is now a disease of such rare occurrence that many physicians and medical students have never seen a single case.

The protection against hydrophobia we owe to the genius of Pasteur, and it is through his brilliant researches that we are indebted for the marvelous inoculation treatment against rabies. After the disease has developed treatment is of no avail, but the protection afforded when treatment is begun early is almost absolute protection — only 0.75% in over 31,000 cases.

The typhoid bacillus vaccine seems strongly indicated as a protection in individuals who are liable to exposure, and the practice seems to be growing in favor. Present reports from army headquarters seem to bear testimony of the desirability of the procedure. A stock vaccine is used, and it seems a hopeful indication that non-commercial laboratories are furnishing the vaccine free of charge.

At present the custom is to give 3 inoculations, at intervals of 7 to 10 days. The first dose should be about 500 million and the others about 1000 million.

The symptoms produced are a marked redness and infiltration about the site of inoculation, elevation of temperature (102°), and at times headache, general malaise, much pain and swelling of the nearby lymph glands. These symptoms persist for 2 or 3 days. Individually there is great variation, most cases are very little affected by the inoculations. Prompt recovery takes place in all cases. All observers agree that in malarial individuals the reaction is too severe and should be avoided.

Many clinicians produce favorable reports in the use of vaccine during an attack of typhoid, but it seems that greater investigation along these lines would be necessary before arriving at any definite conclusion.

Protective inoculation has been extensively practiced against cholera and plague. The symptoms produced are practically the same as where typhoid vaccine is used. The methods employed are somewhat the same, but having had no practical experience, those interested will find ample information in treatises on these subjects. Favorable results are reported from various sources in the prophylactic use of these vaccines, and it would seem rational that they should be employed when it is deemed necessary.

Protective vaccination has also been practiced extensively by Shiga against baccillary dysentery, but the results are not nearly so favorable as in the case of cholera or plague. The dead cultures are very toxic, and this fact is a strong impediment to its more extensive use. We hope that future investigation will lead to better results.

However, many favorable reports have been made of the use of antiserum in dysentery, and many speak enthusiastically of its use at the sick bed, and it seems warranted that its use should be encouraged both in acute and chronic cases.

The antitoxin treatment in diphtheria, both as a prophylactic and a therapeutic measure, is too well established both among physicians and the laity, and hence no comment is necessary. If there should be any person in the profession so ignorant that he would not use the antitoxin when a diagnosis of diphtheria had been made, such a person should be prosecuted in the courts.

Tetanus.—For prophylactic purposes, 20 units (2 cc.) should be injected about the site of injury, and if large nerve trunks have been exposed, in part into their substance; the idea being that the toxin which has formed will be bound to the area of infection, and checked in this area, as the spread is thought to take place along the lymphatics and the nerve fibers. At the same time 100 additional units (10 cc.) should be injected at any indifferent point. It is also recommended to repeat the doses within 6 or 8 weeks. Personally I have never given this late injection.

Where the symptoms of tetanus have developed very little can be expected from the use of the antitoxin. Various methods of injection have been recommended, but the spinal method seems to be the most rational. Allow as much of the cerebrospinal fluid to escape as the amount of serum to be injected. About 10 to 20 cc. of serum should be used, and this to be injected at the rate of 2 cc. per minute. This may be repeated several times during 24 hours if occasion requires, and continue on the following days.

Prophylactic treatment being so effective, and so doubtful when symptoms have developed, it follows that all injuries liable to this infection should receive the prophylactic injection. The practice, I believe, should become universal. Failure to administer the remedy when it is indicated is but little short of criminal.

Meningococcus Meningitis.—The serum treatment of this terrible malady, one of the most fatal, as well as one of the most dangerous in its late effects, has robbed this disease of some of its horrors. As regards fatality much depends upon the time of injecting the serum. The earlier the injection is made, the less fatal is the disease. The death rate where the serum is used is about 30 per cent.; when not used, from 50 to 90 per cent.

The immediate effect upon the disease is favorable. Within 24 hours there is return of consciousness, disappearance of delirium, diminution of the general hypersensibility. The duration is shortened, late effects are only exceptionally present. Mental disorder, paralysis and blindness in particular are rarely observed.

The work done in this field by such men as Flexner, Jobling, Kolls, Wassermann, Jochman, and others, forms one of the brightest pages in the history of the therapeutic world.

Streptococcus Infection. — Antistreptococcus serum has been recommended for prophylactic purposes in scarlatina and puerperal fever, as well as for curative purposes. The serum may also be used to advantage in severe streptococcus infection of the throat, in erysipelas, in chronic streptococcus infections associated with tuberculosis and malignant new growths, in streptococcus endocarditis, in arthritis, cellulitis, lymphangitis, adenitis, etc. A stock vaccine may be used until an autogenous vaccine can be prepared.

Very favorable reports have come from the recent use of the serum in scarlatina. Escherich, speaking of the effect of the Moser serum, remarks that this is magic, and especially so when used early. Of 112 cases which had been injected on the second or third day, every one recovered; while among those in whom the treatment had been delayed or not given at all, the mortality was between 13 and 50 per cent.

Staphylococcus Infections.—Whenever there is a staphylococcus infection, the staphylococcus aureus vaccine seems to fulfill the therapeutic indications. The polyvalent has not been found superior. It seems advisable that if results are not obtained by the staphylococcus aureus stock vaccine that an autogenous vaccine should be prepared.

Indications.—Boils, chronic furunculosis, sycosis and eczema seem to respond most favorably to vaccines. Chronic boils yield readily to the inoculation treatment. Both the subacute and chronic eczemas where there is a serous oozing or pustules yielding staphylococcus aureus in abundance, respond readily to the inoculation treatment. In other forms of eczema, the inoculation proves futile. Sycosis, that form of "barber's itch" showing the staphylococcus aureus, will sometimes yield readily to vaccine.

Acne, at first thought the most responsive to staphylococcus vaccine, many times proves rebellious. That form known as acne vulgaris, seems the most responsive, but this may prove rebellious, and the treatment may have to be continued for weeks or months. Some observers claim better results with the autogenous vaccine.

Antigonococcus Serum.—This finds a favorable place in the treatment of gonorrheal rheumatism, both subacute and chronic; however, the remedy is not infallible. The serum seems to act favorably in other complications of gonorrhea, such as epididymitis, chronic conjunctivitis, etc. However, further investigation seems desirable before its general use can be recommended.

Tuberculosis.—The literature is very voluminous, both for and against the treatment of this disease by the use of tuberculin, but it seems to me that the late treatises on this subject strongly recommend its more extensive employment. Personally I believe that the average case does better under tuberculin treatment than without it, and that every physician should recognize the rationale and value of the method where carried out under proper conditions. I do not feel that we are doing

all that can be done for our tuberculous patients without a fair trial of tuberculin.

The vaccine and serum treatment is a natural treatment, hence if only partially successful today, must and will be the therapeutic armament of tomorrow. It is the natural treatment because with it must be a knowledge of the principles which underlie the interactions between the disease-producing agent and the affected organism. This form of treatment is one of the bulwarks of preventive medicine.

Such diseases as cholera, plague, typhus and typhoid fever, yellow fever, smallpox, malaria, and diphtheria, exist in our midst only with our consent, because we possess a full knowledge of the manner of their prevention.

Progress along the lines of vaccine and serum treatment can come only when we thoroughly understand the above principle; hence the study of infection is the keynote to the entire problem of infectious diseases.

These questions must be answered: "How does infection primarily take place? How does infection give rise to disease? and, How does the animal overcome the infection?"

In conclusion, let me express the hope and belief that the near future will give us a reliable serum against those dreadful diseases sarcoma and carcinoma and again relieve suffering humanity of one of its most formidable enemies.

THE LEGAL RESPONSIBILITIES OF THE SURGEON IN CASES OF FRACTURE.*

BY H. REINEKING, M. D.,
MILWAUKEE.

In venturing to open this discussion, I desire at the outset to disavow any claim to completeness or originality. The rules governing the legal duties of physicians and surgeons were evolved and established centuries ago, they have undergone practically no change, there have been few, if any, statutory enactments to modify them, and the literature of the subject consists almost entirely of decisions bearing upon various applications of the same principles and rules to the manifold conditions presented.

The subject is one, therefore, which, like most matters of law, affords no opportunity for presenting anything new or original; whereas the actual situations which call for the judicial application of these principles and rules are so multitudinous and diversified that only the more common and important ones can be included in the present discussion.

We have been so accustomed to have these questions discussed for us by members of the legal profession, and many of the questions involved are of so technical a nature, that it may seem presumptuous for one not versed in legal knowledge to undertake to discuss them at all. Yet I believe that it would prove profitable for us to occasionally consider them from our own point of view, discuss them in language divested of legal technicalities, and thus familiarize ourselves more fully with our legal responsibilities than most of us heretofore have done.

The bearing which the established principles and rules of law have upon the ever advancing standards of surgery and allied sciences is a subject which requires the elucidation of medical as well as of legal authority. It would seem an especially appropriate subject, therefore, for the present occasion, for the membership of this association represents itself to consist of surgeons, who as a class are more interested in the questions under consideration than other medical practitioners.

Furthermore, the discussions of this association will be looked upon, and let us hope rightly so, as reflecting the best thought and teaching in surgical matters and the highest standards of surgical practice in the state. If, therefore, my effort shall succeed in evoking a free discussion and stimulating others to further study and dissertations on the subject, it will not have been wasted.

The principles and rules which govern in cases of that form of professional negligence known as civil malpractice were evolved from the common law of England and, like other legal customs, brought over to this country and adopted by its courts as soon as these were established. Briefly stated they are as follows:

The practitioner who takes charge of a case of sickness or injury enters upon an implied contract that he will bring to the care of the case an ordinary degree of knowledge and skill, or such an average degree as is generally possessed by other practitioners in the same locality, or in localities similar to the one in which he practices, and at the

*Read before the Wisconsin Surgical Association, Milwaukee, April 22, 1914.

same period of time. In determining the degree of learning and skill reasonably to be required, the advanced and approved methods of diagnosis and treatment then in use and available in this locality are to be taken into consideration. He is further bound to carefully and diligently apply such knowledge and skill, and to exercise his best judgment throughout the management of the case.

He must conform to established methods of treatment and use approved appliances.

He must give the patient, or his attendants, all necessary instructions in regard to his proper conduct and the precautions to be observed, not only during the period of active treatment, but also during convalescence. Disregard of this requirement has led to some heavy verdicts.

These responsibilities do not terminate until the patient has recovered, except on express notice of discontinuance by either party.

In order to hold the practitioner liable for damages on account of an unsatisfactory result, it is necessary to show that he has been negligent in the performance of one or the other of these obligations. Negligence cannot be assumed; nor can it be established solely upon the ground of a bad result. It must be based upon testimony, the weight and credibility of which is for the court or jury to consider and pass upon.

This rule is well expressed in many decisions, from among which I will briefly quote the following: The supreme court of New York says: (Brown vs. Goff, 125 N. Y. s. 458):

"It is well settled that the burden of establishing affirmatively either want of skill or negligence in the care and attention of a patient must be assumed by him."

In a Colorado case (McGraw vs. Kerr, Colo. 128 P. R. 870) the court said: "The fact that a limb is defective after treatment is not evidence of negligence on the part of the physician treating it." Again, "a surgeon may be assiduous, painstaking and careful to the last degree, using all recognized means at his command, both ordinary and extraordinary, and still fail. In such case it is manifest that failure is neither the result nor evidence of neglect"; and again, "defendant must be tried by what he did or omitted to do, not by results."

The only decision containing an apparent modification of this rule that has come to my notice, is one by the supreme court of Minnesota, (Sawyer vs. Berthold, Minn. 134, N. W. R. 120). In sustaining a verdict for $2,000.00 in a case of badly united Colles' fracture, the court says in effect: "An expert witness may base his opinion that the treatment was improper wholly on the result, and a court or jury can base its decision on such an opinion. Without the assistance of expert evidence it is entirely logical to say that the result furnishes no evidence of negligent treatment; but there doubtless are cases where evidence of a poor result alone would convince an expert that the treatment must have been improper, and in such cases the court can see no reason for excluding the opinion based on such evidence, or in refusing to give weight to such opinion. The court does not draw the inference of negligence from the result but from the evidence of the expert."

The writer is loth to question the wisdom of the court and would not presume to criticise its ruling; nevertheless the statement that an expert may, upon no other ground than his examination of the result, testify that the treatment of a fracture was improper, appears to him fraught with hazard of injustice to the defendant doctor.

So many elements, over many of which the medical attendant has no control, and concerning some of which he cannot even obtain any knowledge may enter into the determination of the final result and conspire to prevent a satisfactory outcome dispite his best efforts, that the safer course would seem to be to hold even the expert strictly to the original rule as commonly stated.

Only the experienced medical man can fully realize the many possibilities just referred to.

As an example, however, of a high appreciation on the part of jurists of the difficulties under which the doctor is sometimes placed, I quote from an opinion by the Supreme Court of Oklahoma, (O. K. L., 102, P. R. 138, Kernolle vs. Elden) in which it says:

"There are no classes of cases, perhaps, which go to juries, or indeed, with which lawyers and courts are called on to deal, where results are so uncertain and so frequently unsatisfactory as cases involving damages against physicians for alleged malpractice in their efforts to alleviate the ills to which human flesh is heir. It is nearly always the defendant's judgment which is on trial; and on the hearing the jury and the parties are all sitting and speaking after the fact, while the unfortunate physician when he acted was perhaps required by

the conditions to grope, deliberate, and often speedily act, and always before the fact. After he has acted and the results are different than he desired or expected, and different than were expected or desired by the patient, if a suit is brought, the physician is confronted with all of the after acquired knowledge, and his responsibility is weighed from that standpoint rather than from the true one. A preponderance of the evidence in cases of this character is sufficient to sustain a plaintiff's cause. No more should be required, and no more is required; but it should be certain on the part of the court and the jury that they are acting from actual evidence before them, properly referable to the cause, and that the judgment, when against the physician, is based on such evidence, and not on bias, conjecture or inference."

The questions as to what constitutes recognized methods of diagnosis, proper and advanced methods of treatment and approved appliances, are matters to be decided upon the testimony of expert witnesses. The same is true in regard to the question whether an operation was skillfully performed, or the anesthesia properly administered, and similar matters; and when such testimony is conflicting the consideration of its weight and credibility is for the court or jury.

The degree of learning and skill demanded of the general practitioner is not that of the expert or of the most learned and skillful in the profession. Less is demanded of the doctor in rural districts, with few facilities available, than of the man in the large city with all kinds of diagnostic and therapeutic aids at his command. The country practitioner need but bring to his case an average degree of knowledge and skill, apply the same carefully and diligently and to the best of his judgment, employ only such auxiliary means as are available in his locality and use approved appliances, and he is legally secure, no matter how bad may be the result of his efforts. He is not held liable for mere errors of judgment, unless it is shown that such error was due to ignorance or to want of diligence in determining and treating the existing conditions. Failure to follow established methods of treatment and to apply approved retentive apparatus renders him liable for damages in case of a bad result. Neglect to give the patient such instructions as may be necessary for his proper conduct during the treatment, likewise may form a basis for damages in case harm results therefrom.

The doctor's liability is the same, whether the patient be a private case, one treated for an employer of labor, or a charity case. Corporations, hospitals and employers in general are not liable for the negligence of physicians furnished by them, unless it is shown that such employers were negligent in engaging an incompetent physician, or continuing him in their service after having notice that he had become incompetent.

Injury from negligence for which the surgeon may be held liable is thus defined: "Any want of the proper skill or care which diminishes the chances of the patient's recovery, prolongs his illness, increases his suffering, in short makes the condition worse than it would have been if due skill and care had been used."

Such being the rules governing the trial of all cases in which negligence or malpractice is charged against practitioners in general, is there anything more to be said as to the application of these rules in the case of men who, like the surgeon, hold themselves out as specialists or experts, or as possessing extraordinary skill and knowledge in certain lines of the healing art? The answer to this is well expressed in the biblical declaration that, "from him to whom much is given, much shall be required." The specialist must apply in the diagnosis and treatment of his case the same average degree of learning and skill as is generally possessed by others who specialize in the same class of work. He will be held to stricter account for errors of judgment than his less pretentious brother. The patient employs him by reason of his claim to, or reputation for, a higher degree of skill in his special work than is attributed to the family physician, and he impliedly engages to provide such special skill in the management of the case. He must bring to his aid such advanced means of diagnosis and treatment as have obtained the general approval of the leading authorities in his specialty. He is not held for the highest possible degree of judgment or skill, such as is possessed by only a few men with exceptional training and very great experience, but for a degree generally commensurate with that of others who are working in the same specialty. Here, too, a bad result of itself is not sufficient to prove negligence, but the tendency seems to be to hold the specialist

to somewhat stricter account than the general practitioner.

Let us now consider what special application these rules find to the subject under consideration, namely, fractures. These injuries have always furnished a majority of so-called malpractice cases; in the matter of uncertainty of result, of adverse conditions which in many cases it is impossible fully to overcome, of the frequency of grave complications, and hence of furnishing anxiety for the surgeon, fractures probably stand at the head of the list of injuries, and are still contributing their full share of litigation cases.

Applying the foregoing rules, it is clear that, in order to protect himself against charges of negligence in case of an unsatisfactory result, the practitioner should bring to bear upon every case a careful study of the condition of the patient, both general and local, availing himself in his diagnosis of every aid at his disposal, including the Roentgen ray if available.

He should bear in mind the possibility of complications, especially of injuries to the nerve and vascular structures, and search for such complications rather than have his attention called to them by the patient or others. If such complications are discovered at his first attendance, both he and the patient will be benefited; but if found at subsequent visits they are likely to be attributed to something he has done or omitted to do.

Many cases cannot be examined or treated properly without the aid of anesthesia and it is the business of the surgeon to insist on this whenever the case requires it. It is practically everywhere available, affords most valuable aid in the diagnosis and correction of the injury, and its employment cannot be urged too strongly. To allow a bad position of fragments to remain without having called to his assistance this valuable aid, might well be construed as an act of negligence on the part of the surgeon.

What has been said of anesthesia is in most respects true of the Roentgen Ray, except that it is not so generally available. Whenever an X-ray examination can be obtained by a reasonable amount of effort and without undue inconvenience or exposure to the patient it should be insisted upon. It is desirable to have plates made both before and after the primary treatment; the first will show the exact location, extent and nature of the fracture, thus furnishing valuable guidance in its adjustment, and also serve as a means of protection to the surgeon by showing the nature of the injury and the necessity for his subsequent procedures; but by far the more important is the examination made subsequent to the first reduction and bandaging, for it is by this that the success or failure of the surgeon's effort is demonstrated and the necessity or otherwise of attempts at more perfect reduction or different means of retention established. I am not aware that the failure to use the Roentgen Ray examination has of itself been set up as a ground for charging negligence; yet when we reflect how inestimably serviceable and almost indispensable it has become to most of us, it would seem that no case should be lightly deprived of its possible benefits. Where facilities for X-ray examination are not at hand, or can be had only at great expense or inconvenience, the matter should be made the subject of explanation and agreement between the surgeon and the patient or his legal representatives, preferably in the presence of witnesses.

As an offset to the absence of X-ray examination, where this is impracticable, and in all important or difficult cases in addition to such examination, the surgeon should make it his rule to call in a colleague as consultant, either at the time of first attendance or as soon thereafter as may be practicable. Such counseling will strengthen the confidence of the patient, decrease the chances of errors of judgment and in every way tend to protect the attending surgeon, though it will by no means relieve him of responsibility for his own acts. Should damage result from anything he may do or omit to do, he is not relieved of liability, by virtue of having acted on the advice of another, even a more experienced man than himself; yet such circumstances would as a rule have a decidedly mitigating influence.

The surgeon must use approved and well-tried methods in the management of his case. If he experiments with new or untried methods, he does so at the risk of being held for damages in case of a bad result. While there can be no progress in surgery without the introduction and trying out of new methods, yet it is evident that he who introduces and practices them does so at some risk to himself. The obligation involved is that the treatment be up-to-date and in line with the advances of surgery.

It is evident therefore that different standards

of responsibility will apply according to the localities in which the employment takes place. In rural districts with no hospital facilities available, the surgeon cannot be expected to apply all the advanced methods that may at the time be practiced in localities more favorably situated. So in regard to the open or operative treatment of fractures, all that could be reasonably demanded of the practitioner with no hospital facilities at hand, would be, that in case of failure to procure and maintain satisfactory apposition of fragments, he advise the removal of the patient to a hospital and the employment of the facilities there afforded; while in cases where such facilities are at hand, there should be no unnecessary delay in the attempt to bring about and maintain such a degree of adaptation of the fragments as may reasonably be depended upon to yield a satisfactory functional result at least; and in this attempt the surgeon should resort to whatever method may in his judgment seem most suitable. If open treatment is called for, he will use his best judgment as to the particular technic to be followed, for no one of the methods now in use has as yet established a claim for preference in all cases, and probably no one method will ever be applicable in all cases.

The question which probably oftener than any other perplexes the surgeon, is that of the necessity or advisability of open treatment. In other words, what constitutes a "satisfactory apposition" of the fragments? It seems doubtful that any fixed and final rule can ever be laid down in answer to this question; at any rate one seldom finds a more definite expression than the words "satisfactory apposition." The decision will always be a matter for the surgeon's judgment and experience. A good anatomical result is always a most desirable object and from the standpoint of the employer or liability insurer particularly important, but we are at this time considering the surgeon's side of the situation. In the case of single long bones and weight-bearing bones, such as femur, tibia or humerus, greater importance attaches to the matter of end to end apposition than in others. Some years ago I heard a surgeon of large experience say that in fractures of these bones he would not operate if he found apposition to the extent of one-third of the fracture surfaces. A. D. Bevan (Railway Surg. Journal, June, 1912, p. 396) says, that if in fractures of the femur, tibia or other long bones we could as a rule obtain an approximation of half of the cross section of the fragments, our results would be ideal. In this I fully concur. In a paper read before the Milwaukee Medical Society, March 12, 1912, I made the following assertion: "Any degree of actual end to end contact will as a rule lead to final consolidation with little or no shortening. Nevertheless I would regard anything less than approximately two-thirds end to end apposition as an indication for open operation, when the fracture is one of the shaft of the femur, tibia or humerus." I would modify this by saying that from the standpoint of the surgeon's legal responsibility, and also the patient's welfare, an approximation of one-third of the fracture surfaces will fully justify non-operative management, but the situation should be fully explained to the patient, and his approval obtained for the course to be pursued. There is no legal compulsion as to operative treatment, except in so far that the surgeon must give his patient the benefit of such advances and improvements as have received the approval of recognized authority.

Closely allied to the consideration of operative treatment are the problems of infection and anesthesia. Infection is an ever-present possibility, and we possess no means whereby we can with absolute certainty guard against its occurrence. Many factors which may enter into the causation of infection are entirely beyond the control of the surgeon.

There is no known means of fully sterilizing the patient's skin; infectious germs may be carried to the seat of operation through the medium of the circulation; and for the preparation of most of the materials which come in contact with the wound the surgeon is forced to rely upon procedures which he cannot oversee or control. It is his duty, however, in undertaking the open treatment of fractures to thoroughly familiarize himself with and carry out the extraordinary precautions against infection which have been so strongly insisted upon by the advocates of the method. This done, and the indications for operation well established, he is not liable for untoward results due to infection, provided again that he exercises proper skill, diligence and judgment in recognizing and combatting it in case it does ensue.

The surgeon is responsible for the acts of his assistants, if engaged by him. This includes the anesthetist. If he employs an incompetent or

careless anesthetist, he is liable for any damage resulting to the patient from such incompetence or carelessness. When on the other hand the anesthetist is selected and furnished by the patient, or when the family physician or regular medical attendant takes charge of the anesthesia, it should be understood that such anesthetist assumes the entire responsibility. In the absence of such understanding, the question of responsibility would probably have to be decided upon the facts in the individual case. In employing hospital internes as anesthetists the responsibility would again seem to fall upon the surgeon. I have, however, found no decisions bearing on these points, except as to the general rule that the surgeon is liable for the acts of his assistants. The duties of the surgeon or anesthetist include an examination to determine whether the patient is a fit subject for the administration of an anesthetic, the choice of the drug to be used, its administration by approved methods, and the necessary immediate after-attendance. These obligations fulfilled, neither the surgeon nor the anesthetist is held liable for any untoward results.

In order, therefore, to live up to his legal responsibilities in the management of fractures, the surgeon should aim to attain in his work the following ideals:

Keep informed of all advances in methods of diagnosis and treatment;

Apply with constant diligence and care and to the best of his ability those methods which in his judgment are best suited to the case in hand;

In all doubtful cases to secure the advice and assistance of competent counsel;

As a general rule to be frank with the patient both as to diagnosis and prognosis; unless his mental condition forbids, inform him promptly of any existing complications, and forewarn him in regard to any probability of delayed or imperfect recovery;

Try to keep the patient in an optimistic, friendly, cheerful frame of mind, as nothing can add more to the trials of the surgeon than an antagonistic, suspicious or grouchy attitude on the part of the patient;

In case of open treatment take extraordinary precautions against infection;

Make liberal use of Roentgen Ray examination and of anesthesia, and in the use of the latter see that the patient is protected by all reasonable safeguards.

Having thus met his obligations, even though suits may still be threatened or started, the surgeon will have little cause to fear their outcome.

I wish to acknowledge my indebtedness to the following publications, upon which I have freely drawn for information:

Stephen Smith, Operative Surgery.
Culbertson, Medical Men and the Law.
Withaus & Becker, Forensic Medicine and Toxicology.
Journal of the American Medical Assn.
Railway Surgical Journal.

DISCUSSION.

DR. L. G. NOLTE: Mr. President: I congratule Dr. Reineking: he has given us a splendid paper on the subject and I feel that he has covered the field of liability in surgical work generally and in fracture work specially well, and he deserves our thanks. We cannot emphasize too much the importance of it, especially to the young surgeon—and almost all medical men are called upon to treat fractures at some time or other. Dr. Reineking does well to call attention to the fact that consultation with the best of surgeons does not relieve him of liability. It is of common occurrence, as we all know, that the general practitioner takes a breath of relief after a consultation, and only too often feels that now all is done and safe for him. That this is not a safe attitude to take, a little reflection will show us. We are not through with a case until the final discharge —voluntary or involuntary—and often not then. If a man has the knowledge, and I might add, the experience, and ability to entitle him to be competent to treat such cases—any error of judgment, after due diligence and deliberation, cannot be held against him. But such errors of judgment often are wrongly held against him. It is right here that I want to warn the surgical profession to be fair, not to say, charitable. Dr. Reineking has well pointed out the fact that we all might criticize the results afterwards. The attending surgeon is usually his own greatest and most severe critic—after all is over. But if he did his best, with a knowledge of the dangers and untoward possibilities, and has not been negligent in due diligence and alertness, he is pretty safe, unless some unfair and unfriendly colleague interfere, again the unfair and uncharitable member of the profession. Of course, he usually wins his case—but after much mental suffering—loss of his fee and great detriment to his practice.

In regard to using the latest and most approved appliances, I think this of minor importance as long as we accomplish what we are after. For example, we have all treated fractures, if reduced to our satisfaction, in pillows or between shingles. You know so many of the laity believe it must be a plaster of Paris dressing. Most of us remember the time when plaster was first introduced; when they were afraid of plaster of Paris. Any permanent dressing, of whatever material, will do if it keeps the fragments in place.

And now to the final point. With the introduction of X-Ray skiagraphs we have received great aid in judging of the conditions involved in a given fracture, and in judging of our attempts at reduction. More is expected of us in the treatment of fractures, and we should always, if necessary, avail ourselves of this aid. We do not always need this: for example, in a clear case of fracture of the patella, or, of the olecranon. But when illumination on any point is necessary we should employ the X-Ray. But experience is necessary to understand and to read intelligently something out of a skiagraph, for the more one has experience with skiagraphs the more he can see; and it is a very easy matter to misinterpret these pictures, in complicated cases especially.

So much for the X-Ray as an aid to properly reducing a fracture: that is a praiseworthy and welcome addition to our means of diagnosing and reducing a fracture.

But, alas, it is also used by our critics to judge of our results, and often very unjust conclusions are formed because of the "exaggerated" displacements that could not be overcome.

Here again I say a man should be fair, and he usually is if he has had any experience in fractures and the results of treatment—which are often not all that we would wish with the best of skill and greatest attention.

The X-Ray is of great help in treating cases of fracture. But to use them as a basis for criticism is unjust in most cases. We can only obtain the best results possible,—seldom perfect results. Sometimes the best results obtainable are poor, but they are the best we can get: that is the point to teach the would-be critics. If they would only reflect they would understand. The man who is ready to criticize is usually the man with little experience. The man with experience knows better.

We all want good results; perfect, if possible; but perfect results are rare. Then again, the X-Ray picture may make a result look very bad, when, as a matter of fact, the result has been a very fair, if not a perfect, reduction. Again, what appears to be a fair result in an X-Ray picture may be a very poor result from the standpoint of usefulness in a given limb.

Don't be too optimistic with your prognosis as regards the immediate or remote results, and, always call counsel in any case that promises to give the least trouble,—if for no other reason than to have a witness, or even several witnesses. The psychologic moment to call counsel it at the beginning,—at any rate before union begins to take place: that is, during the first 10 days: after that period the consulting surgeon may be too late, both as an advisor (counsel), and as a witness.

Clearly point out to some responsible member of the family, if you wish to spare the patient, the possibilities, if they are at all likely to occur, of delayed union, non-union, of stiffness, or even ankylosis of joints, painful callus, temporary or persistent paralysis, and, in compound fractures, the dangers of fat embolism, or ordinary embolism, of rupture of large blood-vessels, septicemia, pyemia, necrosis, osteomyelitis, tetanus, and, in even moderate drinkers, the likelihood and dangers of delirium tremens.

And, lastly, do not let your sympathy and soft heart move you to attempt to save a limb that you ought to know can not be saved from amputation. Let the patient do the refusing! Then whatever the results (and such cases are usually bad), you will be spared; and, if you are dismissed from the case, generously allow the other man any praise he can gather from the results of his conservative treatment.

Always keep an accurate and complete record of the case from beginning to the end, and rather make more calls than necessary than too few. Infrequent calls open the door for unfavorable verdicts more frequently than any one factor.

DR. H. M. BROWN: I take it that Dr. Reinecking's paper has been prepared for the purpose of serving as a warning, and to indicate in some degree, methods that should be adopted by the surgeon in endeavoring to protect himself against the hopeless ignorance and even stupidity, of courts, lawyers and the general public in regard to all things that pertain to medicine, particularly to fractures, and he has been very successful in the accomplishment of his object. But it seems to me that he has overlooked two very important things, and the first of these is the *element of time* in the cure of these injuries. Up to the present time there has been prepared no statement of the consensus of opinion of surgeons, in regard to the length of time required for the best possible result in the treatment of fractures and such a consensus of opinion might be, and should be prepared so that there might be some relative standard for use in the consideration of this most important branch of knowledge. Of course, no two fractures are ever alike and such a table of estimates of time would be in a great degree relative, but even so, its value would be of enormous importance both for the instruction of courts and lawyers and for the protection of surgeons. It is true that a vast number of factors enter into the question of ultimate result in the treatment of these injuries, nevertheless I believe that such a table could be prepared.

Again another element that requires most careful consideration in every case of fracture, no matter where situated, except it be perhaps in the skull, is that of the *disturbance of joint relations* and the length of time required before new relations and new adjustments can be established to take the place of the old. To illustrate what I mean, the smallest fracture in any of the extremities results in a minute displacement of the relations in every cartilaginous contact in every joint in that limb. The adjustment of the joints in every normal condition is very exact in the relations of the articulating surfaces to each other and even the variation of a hundredth of an inch in these adjustments means disturbance of lines of muscular action and muscular force, these in its turn must necessarily lead to disturbance of nerve function and its accompanying nerve strain and even cerebral and spinal disturbance. This is no unwarranted theory, for any one of us who has suffered from a fracture, even though it be of one of the phalanges of the toes knows that in order to bring about immobility, to relieve pain, muscle strain and nerve ten-

sion are exerted from the end of the little toe to the top of the spinal column.

You will readily see that these factors must always be considered in giving a prognosis and with these factors always in view, no surgeon, however great his skill or experience should express an opinion when a fracture is first seen or at any period without giving them due consideration.

I most firmly believe that no surgeon is competent to express an opinion as to the result of treatment of any fracture, except the man who first saw it, provided always that he has the ordinary capacity and ordinary ability for recognizing the original condition.

TUMORS OF THE CAROTID BODY.*

BY A. HAMILTON LEVINGS, M. D.,
MILWAUKEE.

General interest was first taken in this subject in 1906 following a report of a case by W. W. Keene and John Funk, with the tabulation of twenty-six cases which had been reported up to that time.

ANATOMY.

The carotid gland is occasionally absent. When present, it is about the size of a grain of rice, and situated near the bifurcation of the common carotid artery. It may be between the external and internal carotids, near the bifurcation, or external or internal to either branch, or upon or beneath the common carotid.

The gland is intimately connected with the carotid vessels by the ligament of Mayer, through which it receives its blood supply. It is surrounded by a capsule of fibrous tissue, which sends prolongations into its interior, dividing it into lobes, and these again into lobules. The glandular tissue is made up of round and polyhedral epithelioid cells arranged in nests or "zell ballen." The blood supply follows the connective tissue strands between the lobes and lobules, and finally as capillaries surrounds and is in intimate relation with the nests or groups of polyhedral cells. Several nests or "zell ballen" are to be found within a lobule.

The embryology of the carotid body is much in question. Adami, Volume 2, page 719, says the carotid gland is formed from the primitive vascular anlage, from cells of epithelioid type, which become grouped at this point. At first, they are continuous with those of the vessel wall. The resulting nodule is enclosed in adventitia. Soon capillary vessels derived from the common carotid artery enter the mass and assume a form not unlike a glomerulus. The unit of structure is the cell ball, composed of a tuft of capillaries which unite and form a vein. Several of these cell balls are included in a lobule. The glomerule-like tufts are surrounded by epethelioid cells arranged in cords or trabeculae.

The carotid body contains ganglion cells and sympathetic fibers derived from the cervical sympathetic.

Pierre de Meuron holds that the carotid glands develop from the third branchial cleft. This was the general opinion until quite recently. Rastschenko and Paltauf, and others, believe that the carotid gland is derived from a slight thickening of the adventitia of the carotid artery near its bifurcation. Baily and Miller, Embryology: Say that the carotid gland is of sympathetic origin.

James G. Collison and John Edmund MacKenty, in an article on tumors of the carotid body in Annals of Surgery for December, 1913, state that the "carotid body" lies in the bifurcation of the common carotid artery; is of doubtful embryological derivation, of undetermined function, inconstantly present, but occasionally giving rise to tumors of a definite structure. The nerve supply is abundant, and is connected with both the cranial and sympathetic system.

Zuckerkandl and H. Stilling believe that the carotid bodies are derived from the sympathochromaffin system anlage.

A. Kohn says that the chromaffin elements of the carotid gland are derived from the nerve anlage which passes from the upper cervical sympathetic ganglion between the two carotids.

The following case was the incentive for this article: Mr. M. P——, aged 68, weight 310 pounds, rather short, was brought to me in October, 1913, by Dr. Norman Hoffman, for an opinion regarding a growth in the man's neck.

The following history was obtained:

Eight or ten years ago he lost his left arm as the result of an injury; otherwise, he thought himself very well. Uses tobacco to excess, and has been a heavy drinker. About one year ago he first experienced a fullness or stricture in the left side of his neck. He felt as though there was something there that was making pressure upon his throat. Occasionally there was some difficulty in

*Read before the Milwaukee Medical Society, May 12, 1914.

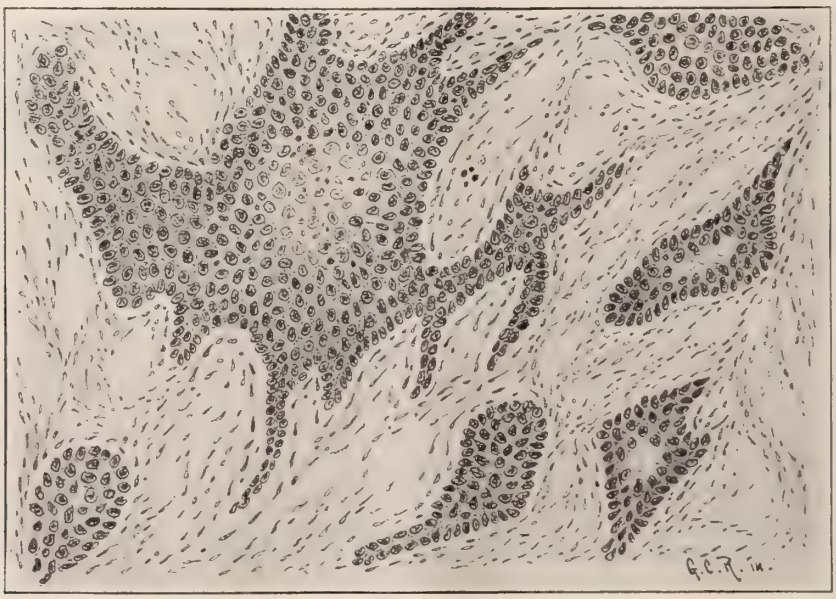
swallowing. The feeling came and went and he attributed it to the use of tobacco.

Three weeks before I saw him he fell, striking the left side of his neck against the bannister. Immediately after this, he noticed a lump at the point of injury, which increased quite rapidly in size and seemed to be making considerable pressure upon the adjacent vessels.

On examination I found the man short and extremely stout, with a very fat and thick neck; left arm gone near the shoulder. On the left side in the middle region of his neck and midway between the angle of the jaw and clavicle there was an oblong, quite hard, and somewhat sensitive growth about the size of a goose egg. The growth was slightly movable laterally, but not up and down; there was no pulsation, and no bruit heard on auscultation. The growth was apparently beneath the sterno-cleido-mastoid muscle. The cervical lymph glands were not enlarged. The growth was too uniform in consistency and hard for an abscess. It was not metastatic, as nowhere had there been or was there any other growth in his mouth or on his head or neck.

The blood was examined and found to be normal. On account of its fixity, deep situation and rapid growth, it was diagnosed as a lympho-sarcoma, and operation advised. The tumor was removed October 20th by making a horseshoe shaped incision, with the convexity in front and extending from near the clavicle to the angle of the jaw. The flap was turned back and carried with it all of the structures down to and including the sterno-cleido-mastoid muscle.

During the operation I endeavored to keep as far away from the tumor as possible. It was found that the growth had incorporated within itself a considerable portion of the sterno-cleido-mastoid muscle as well as the central portion of the omo-hyoid and the internal jugular vein. The vein throughout the extent of the tumor was obliterated. The vein was ligated above and below the growth and divided. The sterno-cleido-mastoid and the omo-hyoid muscles were also divided outside of the



growth, and an effort then made to dissect the tumor off from the vessels. This was successful. It was necessary, however, to ligate the facial artery and vein. The center of the tumor was lying directly upon the common carotid, just below the bifurcation and was intimately adherent to it. After its removal the common carotid was exposed for about two inches, and the external and internal carotids for about one inch. They were completely bare. The vagus nerve was exposed, but not injured.

The growth measured two and a half inches in length, by two inches in width and thickness and was quite firm. On splitting it open it presented a reddish brown color, with a well defined border but no distinct capsule. The man made a good

operative recovery, but in three weeks there was a recurrence in the form of a node as large as an English walnut at the upper border and a little posterior to the first incision. This node was removed and the patient given injections of Coley's fluid. In a few weeks the entire area about the two incisions became infiltrated and hard, and the left side of his neck greatly swollen. The patient lost strength rapidly and died March 6th. The specimen was given to Dr. George C. Ruhland for examination and his report follows:

"Microscopic examination of the tumor shows a rather loosely constructed, cellular connective tissue stroma and within this in irregular disposition the tumor cells proper. The latter are rather large, epithelioid cells. None of them show any chromaffin material and so their origin cannot be referred to the parenchymatous tissue of the gland.

"The arrangement of the tumor cells is rather characteristic. At the periphery of any cell mass, or where the tumor cells border upon the circumjacent connective tissue, they frequently show quite regular more or less cuboidal forms; the farther away from this apparently basal layer the larger and more irregular do they become and finally, not infrequently, they show fatty or hyaline degeneration in the central portions. Here and there delicate capillary tube-like outgrowths may be seen, budding from the main tumor mass. There can be little doubt but that this tumor represents a typical endothelioma."

PATHOLOGY.

Of the sixty-three cases now reported, the microscopical diagnosis in the great majority of cases has been either endothelioma or perithelioma. The growths evidently have their origin not from the epithelioid cells of the carotid gland, but rather from the endothelial or perithelial cells of the capillary tufts which surround the "zell ballen." Consequently, these growths cannot strictly be considered tumors of the carotid body.

DIAGNOSIS.

Only eight of the sixty-three reported cases were correctly diagnosed before operation. In looking over the histories of the cases reported, the following facts are disclosed: With but one exception the growths have been single. The ages range from seven to sixty-eight years. They are situated beneath the sterno-cleido-mastoid muscle; they are slightly movable from side to side, but not up and down. The pulsation of the carotid vessels can usually be felt. They are oblong, of uniform consistency, hard, and not especially sensitive. Primarily the growths seem to be benign.

In the majority of cases the patients have noticed a node in the neck, which was very slowly progressing for a number of years previous to operation. The time during which these growths have been noticed has ranged from one week to seventeen years.

Of the sixty-three cases, fifty-seven were subjected to operation. In four of these, after the exposure of the growth by incision, the operation was abandoned.

In thirty-two cases, all three carotids were ligated. In seven, the external only. In sixteen cases the tumor was dissected off from the vessels, or dissected from the common carotid, or internal carotid, after ligating the external. In nine of these cases recurrence took place.

Of the fifty-six patients operated upon forty-four recovered and twelve died.

There are also eleven cases of speedy recurrence, which will lead to early death, making twenty-two deaths out of fifty-six patients operated upon.

CAUSE OF DEATH.

Four patients died of pneumonia after resection of the pneumogastric nerve; three of hemorrhage; two of cerebral anemia; one of acute edema of the lungs; one of septicemia, and one as the result of infection and hemorrhage.

Four of the patients who lived had hemiplegia with aphasia; one tracheal irritation; in four the voice was affected and there was dysphasia, and in four the face was partially paralyzed.

SUMMARY.

Recluse and Chevassa reached the following conclusions:

Every operation undertaken for tumor of the carotid body may require resection of the vessels and nerves of the neck. Interference should be undertaken, therefore, only when serious functional troubles or a rapid evolution of an apparently malignant character is present, thus justifying the attempt. The consequences may be very grave. Apart from this, we believe the surgeon should not operate.

Dr. W. W. Keene says that after his own ex-

perience and a careful study of all the recorded cases, he entirely agrees with the above conclusions, and adds: The symptoms and inconveniences of a tumor of the carotid body are generally so slight that I do not think any patient who is not suffering seriously or whose tumor does not exhibit symptoms of malignancy or rapid growth should be subjected to the grave dangers which such an operation involves.

Dr. J. C. De Costa has operated on three cases. One case was bi-lateral. He makes the following statement: The carotid body should undergo fibrous atrophy at or soon after puberty. If such atrophy fails to occur, the body will probably enlarge and such enlargement is to be regarded as a tumor.

De Costa says that operative interference is comparatively safe when the tumor is recent and small, but is fraught with grave peril when the tumor is old, and with especial danger if it is large. The larger and older the tumor the more probable it is that ligation of the common carotid or of all the carotids will be necessary. As these growths tend directly to become malignant eventually, as early operation is reasonably easy and comparatively safe, as late operation is difficult and highly dangerous, and as sooner or later the tumor if left alone will kill the patient, early operation is imperative.

Collison and MacKenty make the following statement: The history of the carotid tumor shows it to be in its early stage a benign growth, which later takes on malignancy. The surgical treatment, therefore, for purposes of consideration can be divided into two cases. The diagnosis is rarely made in the early benign stage, but an operation is attempted under some mistaken diagnosis, and then the true nature of the tumor is discovered. If now the tumor is not closely adherent to the arteries, except through the ligament of Mayer, it is safe to dissect it away from the bifurcation. On the other hand, if the tumor surrounds the arteries, is closely adherent to the wall, and other structures are included in the growth, then an attempt to dissect away the mass must be condemned. Five recurrences out of fifteen in which this has been attempted speak strongly against it. The surgeon may now close the wound, leaving the tumor in situ, or he may remove the tumor and arteries together, the usual course pursued. This involves ligation of the common, internal, and external carotid arteries; also probable ligation of the internal jugular vein, and the attendant danger of injury of pneumogastric, hypoglossal and other nerves. The surgery now changes from that of a tumor of the carotid body to that of the carotid artery. As this is one of the most formidable and dangerous operations the surgeon is called upon to perform, each must decide for himself the course to be pursued.

CANCER AND THE CANCER PROBLEM.

PRE-CANCEROUS LESIONS.

BY WILLIAM EDWIN GROUND, M. D.,
SUPERIOR, WIS.

If we are to curtail to any appreciable extent, the ravages of cancer, it must come through the concerted action of a considerable number of the medical profession. The greatest need just now is a thorough awakening of the profession to the full realization of the fact that we are in the possession of sufficient knowledge of the nature and behavior of cancer to enable us to form a very serviceable working basis. We must cease our dalliance and waiting for the discovery of the ultimate cause of malignant disease and direct our attention to the recognition of abnormalities that are early cancer or that may lead to cancer.

Cancer does not spring full-fledged into being, but leads up to full development by easily ascertained steps. It is for us to know the route taken, that we may intercept the disease before it has done material damage to its host.

First of all we must get a clear idea of cancer, and let that idea dominate all our dealings with the cancer question. These are the facts:

First. There are many local conditions which will be mentioned later that are forerunners of cancer; are pre-cancerous.

Second. In a general way most pre-cancerous lesions are in the list of chronic inflammations or irritations. Among them are, eczematous dermatitis, xeroderma, Paget's disease, lupus and chronic ulcers.

In this class must also be included hyperplastic conditions like polypi of the mucous membranes and intestines, the adenomata of the liver, hypertrophy of the prostate, struma thyroidea and hypernephroma, forms of inflammation leading to hyperplastic states and atypical epithelial proliferations. There may be a connection between rectal cancer and chronic constipation and hemorrhoidal disease.

Third. These lesions are purely local, and so remain for a considerable time.

Fourth. Even when the cancer change has taken place and cancer has become a demonstrable fact it is yet a local disease confined to the part attacked and destroys life by centrifugal permeation or decentralization.

Fifth. Such being the case, it follows that for every case of cancer which occurs in a situation accessible to surgical removal a time exists, be it short or be it long, during which it is capable of cure, and the measure of success in its treatment depends directly upon the ability of its victim to avail himself of this time.

It is too true that the mental picture many physicians and almost all laymen have of cancer, is the horrible sore on a person wasted to a shadow, suffering the tortures of hell, and dying a miserable death. What a contrast to the initial lesion. The pathology of a disease in its incipiency and in its terminal stages is so dissimilar that its identity is lost in the maze. This is certainly true of cancer. What a vast difference there is between the little crack in the lip, the little sore on the tongue, the small painless lump in the breast, and the condition that exists in the last stages of the disease.

No matter what view we may take regarding the nature and pathology of cancer it never arises from healthy tissue. Preceding the actual cancer occupancy a definite sub-change is necessary. This subcondition, as I have seen fit to call it, is induced and maintained by chronic irritation or an allied cause, producing tissue hyperplasia, etc., on the way to full cancer development, in the shape of exaggerated overgrowth of the connective tissue or epithelial elements. Roughly speaking, whether a tumor of definite malignancy is to be a sarcoma or a carcinoma is determined by the "send off" given the initial stage. The ability of this to influence tissue change in favor of carcinoma or sarcoma varies in different localities of the body, the significance of which I will try to consider when I come to discussing the nature and pathology of cancer. The identity of these two dominant forms of malignancy is fairly maintained throughout, yet we must not be unmindful of the fact that they may be closely associated and actually merge or be substituted. Broadly speaking, any tumor formation or ulceration, however supposedly innocent, is nearer malignancy than normal tissue.

At present there is no denying the fact that surgery offers the best chance of cure and its availability is open to a wider range of cases than any other treatment of anything near its efficiency. People nowadays have not been slow to take advantage of the relief well directed surgery affords, and the only reason they neglect calling in a surgeon, is because they do not yet know of the life-saving value of a timely operation in early cancer. The people through the medical profession and to some extent by the health authorities, must be educated regarding the danger signals of cancer.

As a starter, I have formulated, from various sources, the following facts which I think should be in the possession of every person, namely:

Cancer is curable in its early stages, more so even than tuberculosis.

At present a timely and well executed surgical operation affords the most certain means of cure.

Early cancer gives rise to no pain and few symptoms, therefore it is well to know the places where cancer is most liable to occur, and the conditions leading to it. Get suspicious. See a good careful doctor, and insist on finding out, but give him the time and opportunity to find out.

In the locations where cancer is most frequently found, its earliest signs are fairly conspicuous, as for example, any swelling of the breast occurring in a woman, especially about thirty-five or beyond, should be investigated. Most cases are cancer.

Any sore on the tongue or inside of the mouth should be carefully studied, for a considerable per cent. are either cancer or near cancer.

Any warts, moles or other growths of the skin, especially when exposed to irritation, if neglected may terminate in cancer.

Irritation of the tongue or cheek by a jagged tooth, artificial denture, or pipe stem may lead to malignancy. I recently operated on a man for cancer of the tongue who had kept a chew of tobacco in the side of his mouth almost constantly for years.

Any warty growth or sore on the lip lasting a month or so is likely cancer, and it is perfectly curable if taken early.

Any irregular bleeding from the womb about the change of life should create suspicion particularly if the spotting or bleeding comes on after exercise or intercourse. Bleeding which comes on after normal menstruation has stopped at the change of life is pretty sure to be from cancer,

and the signal for action. When a cancer of the womb reaches the stage of profuse bleeding, pain and foul discharge, a cure is not to be expected.

Any bleeding from the bowel in a person of middle life or over, should not be attributed to piles and ignored or indifferently treated, but the foundation for rational treatment laid by a thorough investigation. A considerable proportion of these cases are cancer and perfectly curable.

With regard to the identity and significance of pre-cancerous lesions, I cannot do better than to quote from the recent writings of Dr. J. C. Bloodgood: "First of all, little tumors which may have been present since birth, or noticed later in life. These little tumors may occur on the skin as warts, moles or nevi. They may be felt beneath the skin as hard or soft nodules the size of a shot, pea, bean or larger, or they may be felt deeper as in the breast, thyroid gland or deep in the neck.

"Second, unhealed ulcers of the skin and mucous membrane. Here there may be a wound or a burn or some injury or disease which destroys the skin or mucous membrane. The wound never heals or heals badly and then breaks down, the open sore remains for weeks, months or years, often irritated by the patient. At any time usually after months or years cancer may develop in such ulcer. Such ulcers are especially dangerous on the tongue, and a week's delay here is equivalent in danger to six months' delay for a like ulcer on the lip.

"Third, some forms of chronic irritation of the skin and mucous membrane which does not actually destroy it. For example, chronic inflammation and irritation about bad teeth. Cancer of the gum never develops about healthy clean teeth. Inflammation and irritations of the mucous membrane of the mouth, lip or tongue in smokers, from chewing tobacco, or from snuff. This tobacco irritation may lead to the formation of white patches (leucoplacia) or ulcers, or thickening of the mucous membrane. Cancer at any time may develop in these areas of irritation.

"All of these pre-cancerous lesions, tumors, unhealed ulcers, areas of chronic irritation and inflammation of the skin and mucous membrane are recognized by their hosts the moment they begin. Delay in treatment is due to ignorance, fear, or to skepticism.

"As stated before, treatment in this early pre-cancerous stage, if proper treatment, should accomplish a hundred per cent. of permanent cures.

"Any treatment which does not completely remove the little tumor or accomplish healing of the ulcer or completely excise the ulcer, or stop the irritation of the skin or mucous membrane, or any treatment which does not completely excise the ulcer, the result of the irritation, is more dangerous than no treatment at all.

"Far better to delay for good treatment than to be subjected to bad treatment in the early stage."

Under the head of bad treatment Dr. Bloodgood goes on to say: "Bad treatment is the incomplete removal of the little ulcer or tumor. Irritating treatment which does not completely destroy the cells in the tumor, ulcer or area of irritation. Such irritating treatments are, application of caustics, curetting, improper use of X-rays and radium, and carbon dioxide snow. This treatment is dangerous, first, because it may be incomplete, second, there should be a microscopic study of a piece of the pre-cancer lesions."

Bloodgood refers to his investigations over a period of twenty years with almost three thousand cases, and demonstrates that in cancer in the accessible regions like the skin and mucous membrane of the mouth, lip, and tongue, and the sub-cutaneous areas, that is, with palpable nodules, ulcers, and areas of irritation, that good surgery in this pre-cancerous stage should accomplish 100 per cent. of cures, because this early recognition and treatment leads to the complete eradication of the pre-cancerous lesion while it is still benign, or to the recognition of the earliest stage of cancer by the microscopic study of the piece excised, and thus leads to the radical operation indicated at a period most favorable for the cure of cancer.

BOOK REVIEWS

ARTERIOSCLEROSIS, by Louis Faugeres Bishop, A. M., M. D., New York. Oxford University Press, 35 W. 32nd Street, New York, 1914. Octavo, p. 359, with 11 plates and 25 figures in the text. Price, $3.50.

If one can form a correct opinion from a series of impressions gathered by himself and by others, then the symptom-complex known as Arteriosclerosis is more common today than it was fifty or even twenty-five years ago. Certain conditions of our modern excessively active life tend to produce a disease which has as its basis changes in the cells and blood vessels which characterize the aging of bodily tissues.

A new book has just appeared from the pen of Dr. L. F. Bishop, one who has written much on the subject of Arteriosclerosis. The author has divided his book

into twenty-one chapters several of which are very short. The longest chapter is a series of letters from friends of the author in answer to a questionaire sent out by him and adds nothing to the value of the book. Many replies have little reference to the subject. A large part of the book is made up of lengthy quotations, the style is discursive, there is all too frequent reiteration of the same idea couched in practically the same words. Dr. Bishop's whole discourse is an expansion and variation on the theme as expressed in a paragraph on page 12.

"My own belief is that arteriosclerosis arises when the cells of the body become sensitive to particular proteins and that these proteins create irritation, something in the nature of a mild *anaphalaxis* (sic), and if this is continued over a long period of time the result is changes in structure which constitute the disease known as arteriosclerosis."

He does not think that arteriosclerosis has any very definite pathology but that the changes are bio-chemical in nature. Worry is a factor. Lead may be a cause. Alcohol and nicotine are not potent factors.

We have no quarrel with the author as to his belief in the baleful influence of chronic protein intoxication in the production of arteriosclerosis. The reviewer is more and more firmly convinced that the greatest curse of the American people is over eating of protein food. In the effort to drive home this opinion of protein intoxication the author wanders back and forth in rather a disconcerting fashion.

The book has an interest and when one notes the title "Arteriosclerosis, A Consideration of the Prolongation of Life and Efficiency after Forty," one should not expect anything more than a loose web of scattered ideas necessarily oft repeated.

The reviewer does not mean to say that the book is wholly uninteresting. He has read it with much interest and others will undoubtedly find much that is suggestive and helpful especially in the chapter on treatment. There are also a number of receipts which may prove of value in the dietary of the man or woman seeking to reduce the protein intake. The work is well printed and like most books published by the English, is light in weight in spite of its 400 pages.

Diagnosis in the Office and at the Bedside. The Use of Symptoms and Physical Signs in the Diagnosis of Diseases. By Hobart Amory Hare, M. D., Professor of Therapeutics, Material Medica and Diagnosis in the Jefferson Medical College of Philadelphia. New (7th) edition, thoroughly revised and rewritten. Octavo, 547 pages, with 164 engravings and 10 full-page plates. Cloth, $4.00 net. Lea & Febiger, Philadelphia and New York, 1914.

Dr. Hare has given to the profession several books on diagnosis which have run through a number of editions. Their popularity is well deserved, for in a comparatively small space a great amount of helpful information is placed.

The volume now reviewed is the seventh edition. There are a few more illustrations than were in the previous edition but not much change is found in the text. Dr. Hare's method of discussing symptoms and their grouping in building a diagnosis is logical and valuable to the practitioner. The reviewer takes particular satisfaction in recommending this book for he feels that he can do so from his own experience with former editions.

The only drawback is one of the make-up. The print is clear, the illustrations well done but—and this is the criticism—the paper is a glazed page and is exceedingly trying to the eyes. Such a book as this should be given the best clothing that it is possible to give. It is expected that it will be read widely and it undoubtedly will be. Then let the publishers have mercy on the doctor's eyes.

Medical Gynecology. By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third Thoroughly Revised Edition. Octavo of 790 pages, with 150 original illustrations. W. B. Saunders Company, Philadelphia and London. 1914. Cloth, $5.00 net; half Morocco, $6.50 net.

This volume is for the most part very good. The chapter on the internal secretions gives one a good idea of our general knowledge of the subject.

The author makes no wild claims for organotheropy but advises a use of these organs which seems very reasonable. In his treatment of different conditions, he gives the comparative value of different drugs which makes the work very desirable. All of the drugs are not in the pharmacopeia. In giving the value of different preparations the use of vaccines in gonorrhea is not mentioned and no reason is given for omitting it. In the same way the use of salvarsan or its derivatives is omitted in the treatment of syphilis.

These preparations are on the market long enough to merit comment of some kind.

The illustrations are quite profuse in the first half of the book and are too sparingly used later. The text might be less lengthy if helped out with illustrations. Various forms of beginning malignant growths if well illustrated would cause earlier recognition of them and more cures.

The chapter on ectopic pregnancy is very good and should be read that one may keep in mind the various mistakes in the diagnosis of this condition.

Communicable Diseases. An Analysis of the Laws and Regulations for the Control Thereof in Force in the United States, by J. W. Kerr, Assistant Surgeon General and A. A. Moll, A. B. Public Health Bulletin No. 62, July, 1913. Prepared by direction of the Surgeon General. Washington, Government Printing Office, 1914.

An extremely valuable study of the laws and regulations for the control of communicable diseases and for public sanitation in general. This bulletin will be especially interesting to health officers and medical inspectors of schools.

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EDITORIALS

THE ATLANTIC CITY MEETING.

To those of us who live in the climate of Wisconsin the beginning of June brings no thoughts of the need of going to the sea shore for cooling breezes, but nevertheless the meeting of the American Medical Association which will be held at Atlantic City, June 22-26, ought to draw a large number of Wisconsin physicians. It is always stimulating and inspiring to go to these meetings. One cannot help getting new ideas there, new points of view, new enthusiasms; and what is sometimes even more important, one cannot help losing some old prejudices, fads, notions, and sometimes enmities. Nowhere else can one realize so fully the bigness of the medical profession, and nowhere else do we become so sure of the fact, sometimes overlooked, that in the profession there is room for and work for every type of man except the dishonest and the lazy.

All of this is broadening and awakening and the practitioner of medicine needs both of these influences applied at frequent intervals in order to do his work with advantage to his patients and with comfort and profit to himself.

CANCER REPORTS.

The Cancer Committee finds that the reports are coming in slowly. It was thought at first that the best plan would be for the individual physicians to hold back the reports until August 15th, and then send them in in completed form. There is grave danger that the report might be mislaid and forgotten even after being partially filled out if this plan is pursued, and it therefore seems wiser to ask each member of the society to report his cases *immediately*. Those who send in their reports now will receive additional blanks about the middle of August so that all cases presenting themselves up to that time may be included in the tables which will be prepared.

Even if you have only one or two cases to report, DO IT NOW.

X-RAY EXHIBIT AT THE OSHKOSH MEETING.

The Arrangement Committee for the annual meeting of the State Medical Society is preparing an exhibit of X-Ray plates showing fractures and also joint and bone diseases. Several hundred plates have been promised already, but the committee will be glad to receive additions to this number from any of the members of the Society who may have plates illustrating interesting phases of any of these conditions. The chairman of the Arrangement Committee is Dr. H. W. Morgenroth of Oshkosh and letters of inquiry in regard to this matter may be sent to him.

MEDICAL DEFENSE.

The Proceedings of the House of Delegates at the last meeting of the State Medical Society will appear in the July number of the Journal. One of the portions of this to which the members of the Society ought to pay particular attention is the discussion of the subject of Medical Defense.

It has never been considered expedient to pub-

lish in full the reports of the Medical Defense Committee and there are some portions of this discussion which have been omitted for precautionary reasons, but the discussion as presented shows some of the great difficulties of this important subject.

The two main topics of the discussion were the raising of the medical defense assessment from $1 to $2, and the giving to the Medical Defense Committee of some discretionary power as to what cases shall be defended. The motion to raise the assessment was carried after it was shown that the cost of conducting the defense of the members against whom suits were brought or threatened was exceeding the present income of the fund and was rapidly consuming the reserve which had been accumulated during the first year or two of the existence of the plan.

The second topic presented so many difficulties that no action was taken; matters were left exactly as they were before, and the Medical Defense Committee was requested to give the subject careful study and to suggest some plan of procedure which would be considered at the next meeting at Oshkosh.

The situation is a difficult one. Cases are bound to arise in which the physician has done something utterly indefensible; something for which the Society cannot with a good conscience defend him. Who is to decide whether or not the case is to be defended? And if defense is to be refused how can it be done in a way which will not prejudice the interests of the defendant physician by seeming to decide the case against him before it has come to trial?

And again, what is to be done if the defendant physician in a malpractice suit refuses to accept the advice of the medical defense committee and its attorney and insists upon putting the Society to unreasonable and unnecessary expense?

It was eloquently contended that a member paying his medical defense assessment was like a child born into a family, and that it was the parental duty to take care of it, whether it was a monstrosity, a cretin, or an imbecile. The simile may be followed a step further and it may fairly be asked who would give a wayward child or a cretin or an imbecile full control of the family pocketbook?

It seems to the writer that there must be a board of control somewhere, but how it is to be constituted and how it is to exercise its powers are questions of great difficulty.

THE CAUSES OF MALPRACTICE SUITS.

In the discussion of the subject of Medical Defense at the last meeting of the State Medical Society it was generally admitted that the number of malpractice suits is increasing. One of the reasons for this is that the Workmen's Compensation and Employer's Liability acts have removed the possibility of suits for damages in a large group of cases and the lawyers who formerly made a specialty of personal injury suits are now turning their attention more and more to the stirring up of malpractice suits against physicians for unsatisfactory results following injuries. The employer having escaped from their clutches the doctor becomes their most available victim.

The size and importance of this "Personal Injury" industry may be imagined from the incident cited in the discussion, that of the workman who lost his hands in an accident and who received letters from forty different attorneys who wished to handle his case for him.

Now the remedy for this increased danger of malpractice suits does not lie in legislation. It lies in precaution.

We must give our patients good service. We must keep our eyes open and not "go to sleep on the case." In accident cases, especially in bone and joint injuries, we must not neglect the aid which may be given by the X-Ray. We must insist upon early consultations in cases of a dangerous or doubtful character.

Remember that asking for a consultation ourselves puts us in a far stronger position than waiting to have one forced upon us by the family and friends of the patient.

This phase of the subject is well brought out in the article by Dr. Reineking which appears on another page of this number of the Journal.

Of the many causes which lead to malpractice suits one is entirely within the control of the medical profession: that is, the habit of inconsiderate and often unwarranted criticism of the previous conduct of a case when a change of physicians is made. This criticism may be in words or it may be in actions, but it often plants the seed from which a little later will spring a flourishing young damage suit, under the fostering care of the "personal injury" attorney.

When we stop to consider the difficulties under which much of our work is done, the early obscurities and uncertainties of many cases which are gradually cleared up by the lapse of time, the varying methods which equally competent and equally conscientious men will use to secure the same results, we can well afford to withhold the sharp criticism which may be on the tip of our tongues. The reputation which is gained by such criticisms is both cheap and expensive, if Hibernianisms of this character may be permitted.

Medical men have been heard to say: "I told the family they ought to sue Dr. ——— for the way he had taken care of the case."

There is no excuse for such language, and usually there is mighty little excuse for the criticism.

No one can hold our tongues for us. We must learn to do that for ourselves.

NEWS ITEMS AND PERSONALS

Dr. E. P. Hayes, who recently finished a year's service as house physician in the Luther Hospital, St. Paul, has located at Eau Claire, and associated himself in the practice of medicine with Dr. E. L. Mason.

Dr. James Scott, Appleton, has been appointed major in the medical corps, Wisconsin National Guard, and assigned to the command of the Second Infantry detachment.

Dr. F. J. Gaenslen has been appointed a trustee of the Johnston Emergency Hospital, Milwaukee, by Mayor Bading to succeed Dr. W. M. Edwards, resigned.

Dr. Ankenbrandt of Schleisingerville was injured though not seriously in an automobile accident, on May 16th.

Dr. Geo. C. Ruhland, health commissioner of Milwaukee, has appointed Dr. E. T. Lobedan to have charge of all child welfare work and special cases to be assigned by the health commissioner; Dr. Geo. Ernst to have charge of all tuberculosis work for the city, including the Blue Mound Sanatorium and the work of the bureau on tuberculosis.

Dr. J. E. Meany has been named health officer of Manitowoc, succeeding Dr. Staehle.

Dr. Frank Konrad, Oshkosh, has left for a year's work in Europe.

Dr. A. M. Murphy, La Crosse, suffered a compound fracture of the left arm in a runaway accident on April 6th.

Dr. F. C. Haney has been appointed health commissioner of Watertown to fill the unexpired term of Dr. Feld whose death occurred recently.

Dr. A. M. Kersten was on May 6th elected city physician of De Pere.

Dr. E. V. McComb, Marinette, has been reappointed city physician for the ensuing year.

Drs. R. C. Buchanan, Green Bay, and J. P. Lenfestey, De Pere, who have been traveling in European countries since February, will return about July 1st.

Marquette Medical School has received a gift of $5,000 from the Wisconsin Knights of Columbus. This is the first received toward the proposed $100,000 endowment fund.

Dr. F. X. Schaeffer, convicted of manslaughter by a jury, was sentenced to six years in the state prison at Waupun.

Rudolph Frei, Milwaukee, was sentenced to six months in the house of correction, on a charge of practicing medicine without a license.

Employment of convalescent tuberculous patients, released from the Blue Mound and Wales sanatoriums, in the Milwaukee Public Parks, is planned by the park board.

Madison, Wis., May 23.—Dean C. R. Bardeen of the University of Wisconsin medical school tonight issued a statement concerning the care of student health in connection with the resolutions passed by the Dane County Medical Association, charging that the medical advisor's office has been guilty of undue interference with the practice of physicians in Madison engaged in private practice. These resolutions were passed by a divided vote at a meeting of the association held Tuesday night, and a committee consisting of individuals who voted for the resolution was appointed to make an investigation.

Dr. Bardeen's statement follows:

"In the fall of 1908 an epidemic of typhoid fever among the students at the University caused much sickness and some deaths. This led the regents to believe that an effective medical supervision of the care of health of the students was essential. During the following year a department designed for this purpose was established. It at once proved to

be popular, and filled a great need. Before that time the medical care of student health had been a matter more or less of chance. Many students never got adequate treatment, many allowed troubles to run too long, and infectious and contagious diseases were not recognized soon enough. The new department made the responsibility of caring for the student a faculty concern. It put the responsibility for control upon the medical school. And it gave the student advice and a certain amount of care at no expense whatever to the student or his family, thus encouraging him to report promptly ailments even if they seemed slight.

"The department of clinical medicine aims to determine the medical fitness of each student entering the university. It studies the intricate problems of the relation of health to higher education, and prevention of disease among the students by attempting to correct proved errors in present educational practices and in the life of the individual.

"Students entering the university for the first time are required to report to the medical adviser and to undergo a careful medical examination. At the time of registration an appointment card is given each student. Records of the results of these examinations are kept in the office of the department of clinical medicine for future reference in the supervision of the mental and physical development of the student. Based upon these examinations recommendations are made to the deans concerning the student's physical fitness to carry on his studies or to engage in contests requiring physical endurance.

"An endeavor is made to have all cases of student illness promptly reported whether or not professional service is desired. Students are also encouraged to feel free to seek advice concerning the care of their health. When a student reports he is given a careful examination as to physical condition and functional activity. This is done with the most modern equipment and by the most approved methods of science. When the staff has finished such an examination the records show, one might say, a photograph of his physical and nervous condition. When necessary the family physician is applied to for further information, such as personal and family history.

"Similar work is carried on at the University of California and the University of Michigan," continued Dr. Bardeen. "In those institutions the work has been established on lines closely following the work at Wisconsin.

"At the University of Illinois the recent scarlet fever epidemic has convinced the authorities there that more effective medical supervision of student health is needed, and the assistant dean of men of that university has been visiting various universities for the purpose of studying methods of safeguarding student health. He has expressed himself as especially pleased with the methods pursued at Wisconsin and has ranked this university and the University of California foremost in the effective supervision of student health.

"Minor illnesses and conditions affecting the general welfare of the University community are treated by the members of the staff, but students requiring care along special lines (diseases of the eye, ear, major surgery, etc.) are referred to specialists.

"At least one call is made on request of students confined to the house by illness. Personal care of students confined to the house by protracted illness can be given, however, only in exceptional cases. In cases of prolonged illness the services of a local physician are secured, or, when practicable, the student is removed to his home and placed in the care of the family physician.

"Arrangement for students needing hospital care has been made with the Madison General Hospital Association, which has set aside two wards furnished in part by student contributions; one ward for men and one for women.

"Students suffering with smallpox, diphtheria and scarlet fever are cared for at the City Contagious Hospital. For the milder contagious diseases a small isolation infirmary is maintained by the University, on Warren street.

"While it is expected that those who can do so shall pay for the cost of their hospital care special provision is made for those who cannot afford this, so that no student need be deprived of proper attention when ill.

"Over 90 per cent of the students at Wisconsin seek advice or treatment at some time during the year. As a rule a student who is ill seeks advice or treatment at once. Thus, on the principle of 'a stitch in time saves nine,' he usually benefits by not having delayed. If the disease is of a contagious nature prompt isolation prevents its spread.

"Since the new department started there has

been no serious epidemic at Wisconsin. And the effective work in care of the students has led members of the faculty and employees of the university and others to seek medical advice and diagnosis from members of the staff of the clinical department. Frequently it has been difficult to avoid these requests. While this work has been but a small fraction of the total work done, and has been done without acceptance of pecuniary reward, it has led to criticism on the part of some of the Madison physicians as interfering with their private practice, and has led those thus disposed to appoint a committee to undertake the investigation undertaken by the Dane County Medical Association.

"Complaint has also been made of partiality in referring students to those engaged in surgery and the specialties. It must be remembered, however, that the student's welfare and the trust of his parents are at stake. So, unless a preference is expressed by the student or his parents, the medical adviser must give his honest advice as to the person suited to handle the case. Such students cannot be handed around as favors."

MARRIAGES

Dr. William Thorndike, Milwaukee, and Miss Mary Kilbourne, Washington, May 1st.

REMOVALS

Dr. F. W. Hammond, has located at Manitowoc.
Dr. O. A. Eckardt, Durand to Iron Ridge.
Dr. C. H. Dodge, Milwaukee to Clinton.
Dr. Will Young, Delavan to Ft. Atkinson.
Dr. Geo. Smith, Superior to Peshtigo.

DEATHS

Dr. John J. Bradley, Milwaukee, died on May 18, aged 82 years. Dr. Bradley was a graduate of the Minnesota Hospital College, 1885.

Dr. Robert J. Dysart, assistant superintendent of the state insane asylum at Winnebago, died on May 27, aged 41 years. Death was due to endocarditis. Dr. Dysart was a graduate of the University of Illinois College of Medicine, 1900. He was a member of the Winnebago and State Medical Societies.

Dr. O. P. Sala, Bloomington, died on April 29, aged 68 years. Dr. Sala was born in Beetown, Wis. After serving in the war, Dr. Sala entered the College of Physicians and Surgeons of Keokuk, Ia., graduating in 1868, and came directly to Bloomington, where he resided up to the time of his death.

Dr. George Wallace Dodge, one of Menasha's pioneer residents, died on April 6th after a week's illness with pneumonia. Dr. Dodge was born near Chicago, Ill., Oct. 11, 1841, and came to Neenah in 1848. His boyhood was spent in Neenah where he learned the tinsmith's trade. He enlisted in Co. G, Third Regiment, Wisconsin Volunteers, in June 1861, and served two years when he was wounded. He graduated from the Chicago Medical College in 1871 and practiced in Winneconne seven years before locating in Menasha. He was married August 3, 1868, to Miss Olina Walbridge. Dr. Dodge was appointed postmaster under the administration of President Taft, and served in that capacity until about one year ago.

Dr. George R. Bugbee, one of the oldest practitioners in the city of Wausau, died on May 14, of heart disease.

Dr. Bugbee was born in Waterford, Vt., February 7, 1849. He was educated at the Medical College of the University of Michigan at Ann Arbor and the Dartmouth Medical College at Hanover, N. H., graduating from the latter institution in 1872. On December 31, 1881, he was married to Miss Emma E. Lindsey. He was a member of the Marathon County and State Medical Societies.

Dr. Carl R. Feld, Watertown, died on May 12, 1914, at the age of 56 years. Death was due to diabetes. Dr. Feld was born in Watertown December 14, 1858, and resided there all his life except the years when he attended school. In his early manhood Dr. Feld studied law at the Evanston, Ill., school, now a part of the Northwestern University from which he graduated and returned to Watertown to practice. Later he took up the study of medicine and graduated from Rush Medical College in 1891. Dr. Feld served as a member of the Assembly in 1885, 1887 and 1889, 1st District of Jefferson County. Since 1894 he had been secretary of the Board of School Commissioners, was the present health commissioner of Watertown and had served for nearly 20 successive years, excepting one term. He was a member of the Jefferson County and State Medical Societies.

WISCONSIN MEDICAL WOMEN'S SOCIETY.

PROGRAM.

FIFTH ANNUAL MEETING.
OCT. 5-6-7, 1914.
OSHKOSH.

MONDAY, OCT. 5.

10:00 A. M. Child's Contest for Most Eugenic Child. Conducted by Dr. Carrie A. Frost, Chippewa Falls, Assisted by Drs. Irene Tomkiewicz and Belle P. Nair.

All day session devoted to the examination of children under 5 years of age.

The program proper opens Oct. 6th.

9:00 A. M. Business Meeting at 40 Jefferson Avenue.

10:00 A. M. Opening Exercises. Place to be decided later.

TUESDAY, OCT. 6TH.

Morning Session.

10:00 A. M. Prayer.
Address of Welcome.
Response.

11:00 A. M. Report of Child's Contest and Demonstration of Method of Examination with Talk on Eugenics. Dr. Carrie A. Frost.

12:30 P. M. Luncheon. At residence of Drs. Riddle and Riddle, 40 Jefferson Avenue.

Afternoon Session.

2:00 P. M. President's Address.

2:20 P. M. Paper. Dr. Helen A. Binnie, Frostburg, Maryland.

2:50 P. M. Paper. Dr. Mary Pogue, Lake Geneva.
Discussion.

3:20 P. M. Paper. Dr. Gertrude Wellington, Centuria.
Discussion.

3:50 P. M. Paper. Dr. Maud Ferguson Pratt, Appleton.
Discussion.

4:20 P. M. Paper. Dr. Adeline Riddle, Oshkosh.
Discussion.

4:50 P. M. Round Table, "Methods."

6:30 P. M. Boat Ride to Winneconne.

7:30 P. M. Duck Dinner—Banquet.
Toast Master—Dr. Luella Axtell, Marinette.

WEDNESDAY, OCT. 7TH.

8:30 A. M. Business Meeting.
Election of Officers, etc.

9:30 A. M. Auto Ride about City and Country.

10:30 A. M. Clinic—Northern Hospital.
Dr. A. Sherman, "Dementia Precox."

JANUARY REPORT OF THE STATE BOARD OF MEDICAL EXAMINERS.

Dr. John M. Beffel, Secretary of the State Board of Medical Examiners, reports the examination held at Madison on January 13, 1914.

Passed.

College	Year Grad.	Per Cent.
College of P. & S., Md	1913	79
Harvard Med.	1892	80
Univ. of Ill	1913	84
Marquette	1909	85
Univ. of Louisville	1913	78
Northwestern	1913	79
Univ. of Pa	1912	85
Univ. of Pa	1913	89
Univ. of Ill	1913	82
Rush	1912	82
Marquette	1912	75
Marquette	1913	76
Chicago Coll. of M. & S.	....	75
Chicago Homeo.	....	81
Bennett	1907	81
Palermo, Italy	1902	81

Failed.

Marquette	1913	69

Licensed Through Reciprocity.

College	Year Grad.	Reciprocity with
Univ. of Ill	1912	Illinois
Bennett	1911	Illinois
Chicago Coll. of M. & S.	1911	Illinois
Chicago Coll. of M. & S.	1907	Illinois
Rush	1911	Illinois
Chicago Coll. of M. & S.	1911	Illinois
Chicago Coll. of M. & S.	1910	Illinois
Chicago Coll. of M. & S.	1911	Illinois
Cleveland Homeo. College	1885	Illinois
Hahnemann	1908	Illinois
Univ. of Michigan	1912	Michigan
Univ. of Michigan	1908	Michigan
Med. Chir. Kansas City	1903	Kansas
Bellevue Hospital	1886	Kansas
Univ. of Va	1911	Virginia

Univ. of Pa	1907	Pennsylvania
Univ. of Minn	1902	Minnesota
Univ. of Ill	1904	Minnesota
Univ. of Ind	1912	Indiana
Univ. of Md	1910	Maryland
Univ. of Ala	1910	Arkansas
Coll. of P. & S. Iowa	1876	Nebraska
St. Louis Coll. of P. & S	1909	Missouri
Starling Medical College	1891	Ohio
Rush	1896	Iowa
American Sch. of Osteo	1907	Missouri

CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

FIFTH ANNUAL SESSION, LONDON, ENGLAND, WEEK OF JULY 27, 1914.

Program of Evening Sessions.

General Surgical Division.

Presidential Meeting, Monday, July 27th, in the Grand Hall, Hotel Cecil.

Formal Opening.

Address of Welcome by Sir Rickman J. Godlee, Honorary Chairman of the London Committee.

Welcome to American Surgeons, by the Honorable Walter Hines Page, American Ambassador.

George Emerson Brewer, M. D., New York City: Address of retiring president.

Inauguration of President John B. Murphy and Vice-President George E. Armstrong.

Professor A. von. Eiselsberg, Vienna. The Choice of the Operative Method for Ulcer of the Stomach.

Discussion by Sir Watson Cheyne and Mr. James Sherren.

John B. Murphy, M. D., Chicago, Presidential Address: Arthrodesis and Bone Transplantation; Its Limitations and Technique.

Tuesday, July 28th, in the Grand Hall, Hotel Cecil.

Henry Jellett. F. R. C. P., Dublin: The Use of the Levator-Ani Muscle and the Utero-Sacral Ligament in Prolapse Treatment.

Discussion by Dr. Herbert Spencer, London.

E. Wyllys Andrews, M. D., Chicago: Cure of Hernia by Tissue Inlaying or Fascial Implantation.

Discussion by Lawrie Hugh McGavin, F. R. C. S.

Robert Jones, F. R. C. S., Liverpool: Certain Derangements of the Knee Joint and Their Treatment.

Discussion by Mr. A. H. Tubby and Mr. Robert Milne.

Wednesday, July 29th, in the Grand Hall, Hotel Cecil.

George E. Armstrong, M. D., Montreal: Typhoid Perforation.

Discussion by Sir Anthony Bowlby, F. R. C. S., London.

Charles H. Mayo, M. D., Rochester: Primary and Late Results of Operations for Exophthalmic Goiter or Hyperthyroidism.

Discussion by James Berry, F. R. C. S.

Thursday, July 30th, in the Grand Hall, Hotel Cecil.

Professor Doctor Krönig, Freiburg, Germany: The Principles of Non-Operative Treatment of Carcinoma.

James F. Percy, M. D., Galesburg, Illinois: The Treatment of Inoperable Carcinoma of the Uterus by the Application of Heat.

Thomas Wilson, F. R. C. S., Birmingham: Radical Operative Treatment of Cancer of the Uterus.

Discussion by Thomas Watts Eden, F. R. C. S., W. E. Miles, F. R. C. S., London; and Dr. Joseph Colt Bloodgood, Baltimore.

Friday, July 31st, in the Grand Hall, Hotel Cecil.

Professor Tuffier, Paris: Transplantation of Ovaries.

Discussion by Sir John Bland-Sutton.

Sir William Osler, Bart., Oxford: Intestinal Stasis.

Discussion by Sir Arbuthnot Lane, Bart.

Sir Berkeley Moynihan, Leeds: Intestinal Stasis.

Joseph Colt Bloodgood, M. D., Baltimore: Surgery of Intestinal Stasis.

DIVISION OF SURGICAL SPECIALTIES.

Tuesday, July 28th, in the Ballroom of the Hotel Savoy.

Professor E. Schmiegelow, Copenhagen, Denmark: The Results of Operations (Laryngofissure) for Intrinsic Cancer of the Larynx.

Discussion by Sir St. Clair Thompson, London.

Dr. J. M. West, Berlin, Germany: The Intranasal Surgery of the Lachrymal Apparatus, after an Experience with over 225 Operations.

Discussion by Dr. D. R. Paterson of Cardiff.

Wednesday, July 29th, in the Ballroom of the Hotel Savoy.

Dr. A. Logan Turner, Edinburgh: The Application of Skiagraphy to the Mastoid Region and Its Use in the Detection of Disease.

Discussion by Mr. Sidney Scott, London.

Mr. Hugh E. Jones, Liverpool, England: Some Considerations which Determine the Extent of an Operation in Septic Invasion of the Lateral Sinus.

Discussion by Mr. Hunter Tod, London.

Thursday, July 30th, in the Ballroom of Hotel Savoy.

Symposium on Surgery of the Cleft Palate. (Papers to be limited to fifteen minutes each.)

Robert W. Murray, F. R. C. S., Liverpool.

W. W. Goyder, M. D., F. R. C. S., Bradford

Johan Ulrich, Copenhagen, Denmark.

Truman W. Brophy, M. D., Chicago.

George V. I. Brown, M. D., Milwaukee, Wisconsin.

Joseph R. Eastman, M. D., Indianapolis, Indiana.

Dr. Ernst Kraeger, Berlin.

Discussions limited to ten minutes each. by Sir William Arbuthnot Lane, London; Edmund Owen, M. B., F. R. C. S., London; James Berry, M. B., F. R. C. S., London; Professor Keith, London; T. Percy Legg, M. S., F. R. C. S., London; and Dr. Edward S. Judd, Rochester, Minnesota.

Friday, July 31st, in the Ballroom of the Hotel Savoy.

R. H. Elliott, Lt. Col., I. M. S., Madras, India: The Sclero-Corneal Trephining Operation for Glaucoma.

Discussion by Mr. Treacher Collins.

Mr. F. Richardson Cross, Bristol: Operative Procedure for Strabismus.

Discussion by Mr. N. Bishop Harman, London.

Dr. John B. Story, Dublin: The Operation for Senile Cataract.

Discussion by Mr. Holmes Spicer.

ANATOMY AND PHYSIOLOGY—A TEXT-BOOK FOR NURSES. By John Forsyth Little, M. D., Assistant Demonstrator of Anatomy, Jefferson Medical College, Philadelphia. 12mo., 483 pages, with 149 engravings and 4 plates. Cloth, $1.75 net. The Nurses' Text-Book Series. Lea & Febiger, publishers, Philadelphia and New York, 1914.

Dr. Little's contribution to nursing literature is deserving of appreciation for its thoroughness and illustrative character. It is an unusually attractive presentation of a most difficult subject, setting forth in a clear and concise way the structure and functions of the human body.

The first chapter deals with the anatomic arrangement of the body as a whole, followed by a brief chapter on the chemic physiology of the human body. Then follow successively, chapters on Metabolism, Cell Structure and Functions, Tissues, Articulations, and the different systems of the body, the Organs of Special Sense, and lastly the Internal Organs of Reproduction, the whole making a volume of 483 pages.

The chapter on the Vascular System is made particularly clear by diagrams of the general and fetal circulations. There are 18 other illustrations which aid in elucidating the text.

The review questions at the end of each chapter make an attractive feature as does also the very complete glossary which occupies the last twenty pages of the volume.

To the reviewer the text seems somewhat advanced for the new beginner in the average training school but for advanced study or for the graduate nurse who desires to brush up on this subject it will be found a most conveniently arranged book for reference and study. It is complete, well written and well illustrated and should meet with favor in training schools for nurses.

STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepp, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Third edition thoroughly revised. Octavo volume of 717 pages. Philadelphia and London. W. B. Saunders, 1913. Cloth, $4.00 net; Half Morocco, $5.50 net.

The fact that a new edition of this work was necessary within two years of the appearance of the second edition shows that the volume is in demand and is filling a need.

The new edition has permitted further development of such subjects as serology, serum and bacterin therapy, chemo-therapy and the recent innovations in the treatment of syphilis, tropical disorders and other diseases caused by animal parasites, the newer cardiac physiology and the graphic methods of studying the phenomena of the circulation.

The book contains an enormous amount of information and the information is clearly given and is thoroughly reliable so that the work can be strongly commended to those who are seeking for a book of this character.

TREATMENT OF CHRONIC LEG ULCERS, A PRACTICAL GUIDE TO ITS SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT. By Dr. Edward Adams. 122 pages, illustrated. Cloth, $1.00. Published by The International Journal of Surgery Company, 100 William Street, New York City.

A useful and practical little book on a commonplace subject which is too often neglected. The amount of discomfort and actual disability caused by leg ulcers is sufficient to entitle them to a volume devoted entirely to their consideration, and we congratulate Dr. Adams upon his realization of this fact.

The little volume is simple, practical, and adequately illustrated.

HANDBOOK FOR THE POST-MORTEM ROOM. By A. G. Gibson, D. M. (Oxon.) F. R. C. P. (Lond.), University Demonstrator in Pathology, Oxford. 136 pages, with 13 illustrations. Price, $1.50. Oxford University Press, 35 West 32nd Street, New York, 1914.

A handy, pocket-size volume giving clearly and in detail the technique of the post-mortem room.

THE CLINICAL HISTORY IN OUTLINE. By Paul G. Woolley, S. B., M. D., Professor of Pathology, College of Medicine. University of Cincinnati, Director of Laboratories, Cincinnati General Hospital, Octavo, 53 pages, interleaved. Price, $1.00. Publishers C. V. Mosby Co., St. Louis, Mo., 1914.

This little book is not an automatic history taker but is a very useful reminder of points to be considered in this important part of the practice of medicine and it also offers a systematic scheme by following which a student may be enabled to arrange the facts concerning the patient in an orderly way. It is modelled upon Strümpell's "Leitfaden f. d. klin. Krankenuntersuchungen."

CLINICAL DICTIONARY. Dornblüth, Otto, Dr., Wiesbaden. "Klinisches Woerterbuch. Die Kunstausdruecke der Medicin." Fifth, considerably enlarged, edition. Leipzig, Verlag von Veit & Co., 1914. Cloth, 5 M. $1.25. Modern medicine abounds in so many terms, taken from foreign languages, that even one most familiar with literature can not know the meaning of all of them or remember them. The bad habit of naming diseases and symptoms after their discoverers considerably adds to this predicament. Therefore the author collected in this dictionary the common foreign words, with briefly mentioning their etymology and meaning and the most important technical terms from ancient and modern, in altogether 32, languages. After each word of a foreign language the latter is indicated by abbreviations and, after compounds and those taken in a changed form from Greek and Latin, the derivation is added in italics. Latin or Greek expressions, which are used, e. g., only in the English Language, are signified by "lat engl". Thus the book serves also to the readers of other languages than German as a splendid supplement to the general dictionaries. The moderately priced dictionary is very complete, very accurate, and gotten up in a very attractive and handy form. Having used with great satisfaction the third and fourth editions, which were reviewed upon their appearances six and three years ago, we can conscientiously recommend the useful work. The new, fifth, edition, has been improved and augmented by 17 pages.

C. ZIMMERMANN.

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NEXT ANNUAL SESSION, OSHKOSH, OCT. 7-9, 1914.

The Wisconsin Medical Journal, Official Publication

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Door		N. Z. Wagener, Sturgeon Bay.
Douglas	C. M. Gould, Superior	W. H. Schnell, Superior.
Dunn-Pepin	L. A. Larson, Colfax	L. A. Dahl, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	D. J. Twohig, Fond du Lac	H. C. Werner, Fond du Lac.
Grant	S. W. Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
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Juneau	W. B. Parke, Camp Douglas	A. T. Gregory, Elroy.
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La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
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SOCIETY PROCEEDINGS

COLUMBIA COUNTY.

On March 11, 1914, the annual meeting of the Columbia County Medical Society was held at the city hall in Portage. The following were present: A. J. Batty, B. F. Bellack, F. D. Bentley, John Binnie, E. P. Andrews, Jos. Chandler, Ada Chandler, A. C. deNeven, O. O. Force, F. S. Gorton, W. C. Henney, B. C. Meacher, J. A. Mudroch, J. A. Roberts and A. F. Schmeling.

Dr. Bellack, the president being delayed, the chair was taken by the vice-president, Dr. O. O. Force, and the meeting called to order. The minutes of the two previous meetings and the financial reports of the secretary were read and approved. Dr. Force then explained the increase of dues on account of Medical Defense, he having been a delegate during the 1913 meeting when the defense act was discussed from various sides and the conclusion reached that it should be left to the county society who should or should not be defended in case the nature of the complaint was such or seemed to be such as to be indefensible.

Election of officers for 1914 resulted as follows: president, O. O. Force, Pardeeville; vice-president, Jos. Chandler, Pardeeville; secretary, A. F. Schmeling, Columbus; delegate, F. D. Bentley, Portage, with power to choose his own alternate; censor for three years B. F. Bellack, Columbus. Drs. Helen A. Binnie and A. C. DeNeven, upon recommendation of the censors, were admitted as members.

The president was instructed to order two members, one to read a good surgical and the other a good medical paper upon some "live" topic during the next meeting of June 10, also to designate the place where the meeting is to be held.

Upon motion the Society adjourned.

A. F. SCHMELING, *Secretary.*

DODGE COUNTY

The May meeting of the Dodge County Medical Society was held at the Asylum for the Criminal Insane, and was entertained by Dr. Rock Sleyster, the superintendent. Sixteen members were present and expressed themselves as well pleased with the meeting. Dr. F. G. Connell read a paper on "Surgery of the Stomach." The officers of the society elected are: President, Dr. Bachhuber, Mayville; vice-president, H. B. Sears, Beaver Dam; secretary-treasurer, E. S. Elliott, Fox Lake. Next meeting at Beaver Dam.

The Dodge County Medical Society held an educational meeting at the Armory at Beaver Dam on May 23rd. The Woman's Club, teachers and school boards in the county attended, about 250 being present.

E. S. ELLIOTT, *Secretary.*

DOUGLAS COUNTY

Members of the Douglas County Medical Society met at the Commercial Club on May 13, at Superior. The members of the Douglas County Board and the Superior City commission met with the society, and the matter of erecting a new isolation hospital to replace the present hospital was the subject under discussion.

FOND DU LAC COUNTY

Fond du Lac County Medical Society met on May 20th at the high school building. Dr. L. W. Bremerman of Chicago spoke on "The Diagnosis of the Kidney Diseases." His lecture was illustrated with stereopticon views. About fifty physicians were present. A business meeting was held before the lecture.

GRANT COUNTY

Grant County Medical Society held a meeting at Platteville, on Thursday, May 14th, at Dr. Cunningham's Hospital. After inspecting this new and thoroughly equipped building, an orthopedic clinic was held. At 2 P. M. the meeting was called to order by the president, Dr. S. W. Doolittle, the place of assembly being the large sun parlor of the hospital. Those present were: Drs. D. L. Brady, J. E. Donnell, E. Kraut, S. W. Doolittle, J. C. Doolittle, J. Oettiker, J. H. Fowler, H. C. Waddle, N. E. McBeath, J. McGovern, W. Cunningham, E. X. Thompson, F. H. Baldwin. and M. B. Glasier. Dr. Huebenthal of Belmont, Roman and Melhop of Dubuque, were the guests of the Society.

Dr. E. X. Thompson read a report of cases of Infantile Paralysis, which was made more interesting by exhibiting the cases reported. Dr. S. W. Doolittle led the discussion, which proved to be a genuine "experience" meeting. Dr. J. Oettiker gave the results of some observations made while abroad, and while not strictly of a medical nature, will doubtless be found of value to those who contemplate taking the same trip. The report of an interesting case by Dr. J. H. Fowler, was one of Perforating Ulcer of the Stomach in a child twenty months old, but with symptoms so obscure that a positive diagnosis could not be made until the autopsy revealed the true nature of the case.

Dr. Cunningham then presented a case, asking counsel of all present. Being a table loaded with delicious refreshments, it did not take long for all to make a diagnosis and prescribe treatment. A unanimous vote of thanks was extended by the society to Dr. Cunningham, and all agreed that this was a most enjoyable and profitable meeting. Drs. Earl X. Thompson, H. C. Waddle, J. B. Mecum, F. E. Blackburn, Rush Godfrey and C. W. Palmer were admitted to membership.

M. B. GLASIER, *Secretary.*

IOWA COUNTY

The Iowa County Medical Association held its annual meeting at St. Joseph's Hospital, Dodgeville, on April 23rd. The following officers were elected: President, W. J. Pearce, Dodgeville; vice-president, J. P. Parmley, Mineral Point; secretary-treasurer, H. D. Ludden, Mineral Point.

OUTAGAMIE COUNTY

A regular meeting of the Outagamie County Medical Society was held on May 12, at the Hotel Randolph, Appleton. After supper, at 7:30 P. M. we proceeded with the regular meeting of the society. The first paper on the program "Surgical Emergencies of General Practice, by Dr. V. F. Marshall was read and very generally

discussed, bringing out the experiences of the members at various times in their career. Dr. Hegner was to have read a paper on "Typhoid", but due to press of business was not able to be with us. Typhoid was discussed by the society in general, and many points were brought out in the way of more abundant feeding and means of differentiation from other diseases. Dr. G. A. Ritchie read a very valuable paper on "Malpractice as it Pertains to the Medical Profession". This paper was very thoroughly discussed and Dr. Ritchie was asked to read his paper at some future time when the attendance was larger.

There were 12 members present at this meeting. The Society then adjourned.

We are planning to hold the next meeting at the new county tuberculosis sanatorium, where we may be able to see some of the cases tried out by compression of the lung with the injection of nitrogen.

PIERCE COUNTY

A regular meeting of the Pierce County Medical Society was held at the Hotel Lane on May 28. Drs. Dougherty, Richards and McLaren of St. Paul were the guests of the Society. The following program was given: "Fractures," Dr. Dougherty. "Abdominal Pain," Dr. Richards. "Operations during Pregnancy," Dr. McLaren.

After the meeting a supper was served at the Lane Hotel.

RACINE COUNTY

The regular meeting of the Racine County Medical Society was held at the Hotel Racine, Racine, Thursday, April 9, at 8 P. M.

Meeting was called to order by the president, Dr. Emil Tompach. Dr. Hans Anderson, formerly of Cleveland, Ohio, but now practicing at Racine, was elected a member of the Society.

Dr. H. B. Hitz of Milwaukee, gave a very interesting and instructive talk on Some Serious Complications of Middle Ear Suppuration. A discussion followed.

Dr. F. C. Christensen, Racine, read a paper on Myxodema.

The next meeting will be held at Brown's Lake in June.

SUSAN JONES, *Secretary.*

WAUPACA COUNTY

At the meeting of the Waupaca County Medical Society, held at Weyauwega, Dr. A. H. Curtis of Chicago read a paper on Recent Developments in Gynecology, and Dr. L. J. Pelton of Waupaca on a Hypothetical Question. Dr. Jeffrey of Weyauwega was admitted to membership.

NINTH COUNCILOR DISTRICT.

The annual meeting of the Ninth Councilor District Medical Society was held at Stevens Point on May 8th, with thirty physicians in attendance. Supper was served at the Sellers Hotel at 7 o'clock, following which the business meeting was held. Dr. Kellogg Speed, a member of the visiting staff of Mercy Hospital, Chicago, lectured on Bone Surgery. The officers elected are: president, W. F. Cowan, Stevens Point; Jos. F. Smith, Wausau, secretary-treasurer. The next meeting will be held at Grand Rapids in July. The October meeting will be held at Wausau, and the one in January at Marshfield.

OSHKOSH MEDICAL CLUB

The Oshkosh Medical Club held the closing meeting of the season on May 13 at Oshkosh, the event being marked by a banquet at the Athearn Club. Covers were laid for fifty-six, and Dr. F. G. Connell acted as master of ceremonies. Talks of interest to members of the profession were given by Drs. Rock Sleyster of Waupun and B. C. Gudden of Oshkosh.

THE MILWAUKEE OTO-OPTHALMIC SOCIETY.

At the regular meeting of the Milwaukee Oto-Ophthalmic Society held May 19, 1914, Dr. G. I. Hogue presented a case of obstinate interstitial keratitis. Dr. G. F. Zaun presented a case of ophthalmoplegia complete and unilateral in a boy twelve years of age, there was also a tumor in the left nostril. Dr. N. M. Black read a paper entitled, "A spectroscopic demonstration of the standard colors used in railway signaling and a glass for the relief from glare from headlights of high intensity." The paper was discussed by Drs. Higgins, Seaman and Reineking. Dr. S. G. Todd read a paper entitled, "The Specialist in the Smaller Cities.

GUSTAVUS I. HOGUE, M. D., *Secretary.*

ON THE PRESENT STATE OF THE TREATMENT OF TUBERCULOUS OCULAR AFFECTIONS. Hertel, E., Prof. Strassburg, (Sammlung zwangloser Abhandlungen aus dem Gebiete der Augenheilkunde), edited by A. Vossius, Vol. 9, No. 7. Halle a. S. 1914. Carl Marhold M. 160, $0.40, discusses in detail from literature and his own experience the surgical, conservative, and specific treatment of tuberculous affections of the eye, of which the latter receives the largest share, including the influence of tuberculin on experimental tuberculosis of the eye. H. shows that in spite of the numerous publications the principal value of tuberculin treatment of ocular tuberculosis cannot yet be clearly estimated, and that so far one has not succeeded in surely curing inoculated tuberculosis of the eye by tuberculin. A somewhat higher percentage of cures has been obtained by tuberculin, but not to such an extent, that it would offset the other conservative methods. H. concludes that the different methods of treatment of tuberculosis of the eye do not exclude, but supplement, one another, and thus increase their effect. Therefore so far their combination is imperative. A very complete bibliography in alphabetical order is appended.

C. ZIMMERMANN.

The Wisconsin Medical Journal

Volume XIII — Milwaukee, July, 1914 — Number 2

TRANSACTIONS
OF THE
SIXTY-SEVENTH ANNUAL MEETING
OF THE
STATE MEDICAL SOCIETY OF WISCONSIN
AT MILWAUKEE, OCT. 1, 2 AND 3, 1913

OFFICERS:

PRESIDENT.
CHARLES S. SHELDON, Madison.

1st Vice-Pres., C. A. EVANS, Milwaukee.
2nd Vice-Pres., C. J. COMBS, Oshkosh.
3rd Vice-Pres., EDWARD KINNE, Elkhorn.

SECRETARY.
ROCK SLEYSTER, Waupun.

TREASURER.
SIDNEY S. HALL, Ripon.

COUNCILORS.
1st District—M. R. WILKINSON, Oconomowoc.
2nd District—G. WINDESHEIM, Kenosha.
3rd District—F. T. NYE, Beloit.
4th District—W. CUNNINGHAM, Platteville.
5th District—W. F. ZIERATH, Sheboygan.
6th District—H. W. ABRAHAM, Appleton.
7th District—EDWARD EVANS, La Crosse.
8th District—T. J. REDELINGS, Marinette.
9th District—T. H. HAY, Stevens Point.
10th District—R. U. CAIRNS, River Falls.
11th District—J. M. DODD, Ashland.
12th District—H. E. DEARHOLT, Milwaukee.

PROGRAM COMMITTEE.
EDWARD EVANS, La Crosse, Chairman.

COMMITTEE ON ARRANGEMENTS.
H. W. MORGENROTH, Oshkosh, Chairman.

COMMITTEE ON PUBLIC POLICY AND LEGISLATION.
J. P. McMAHON, Milwaukee, Chairman.
F. F. BOWMAN, Madison.
A. G. SULLIVAN, Madison.

COMMITTEE ON MEDICAL DEFENSE.
G. E. SEAMAN, Milwaukee, Chairman.
A. J. PATEK, Milwaukee, Secretary.
S. S. HALL, Ripon.

DELEGATES TO A. M. A.
ROCK SLEYSTER, Waupun.
J. J. McGOVERN, Milwaukee.
J. M. DODD, Ashland.

ALTERNATES TO A. M. A.
F. T. NYE, Beloit.
W. T. MURPHY, Waukesha.
J. F. PEMBER, Janesville.

PUBLICATION COMMITTEE.
A. J. PATEK, Milwaukee; G. E. SEAMAN, Milwaukee; O. H. FOERSTER, Milwaukee; S. S. HALL, Ripon; C. S. SHELDON, Madison.

COMMITTEE ON PREVENTION OF TUBERCULOSIS.
M. P. RAVENEL, Madison; T. H. HAY, Stevens Point; C. A. HARPER, Madison; G. E. SEAMAN, Milwaukee; J. M. BEFFEL, Milwaukee.

COMMITTEE ON MEDICAL EDUCATION.
EDWARD EVANS, La Crosse;
E. S. HAYES, Eau Claire.
W. H. WASHBURN, Milwaukee.

COMMITTEE ON NECROLOGY.
A. W. MYERS, Milwaukee.
E. L. BOOTHBY, Hammond.
J. C. REYNOLDS, Lake Geneva.

COMMITTEE TO ACT WITH BOARD OF PUBLIC INSTRUCTION A. M. A.
C. R. BARDEEN, Madison.

DELEGATE TO NATIONAL LEGISLATIVE COUNCIL A. M. A.
H. B. HITZ, Milwaukee.

DELEGATE TO COUNCIL ON MEDICAL EDUCATION A. M. A.
A. J. PATEK, Milwaukee.

PROCEEDINGS OF THE HOUSE OF DELEGATES, STATE MEDICAL SOCIETY OF WISCONSIN, SIXTY-SEVENTH ANNUAL MEETING.

MILWAUKEE, OCT. 1, 2 AND 3, 1913.

Session September 30th, 1913, 7:30 P. M.

Meeting called to order by the President, Dr. A. J. Patek, of Milwaukee.

The roll call by the secretary showed 31 delegates present.

PRESIDENT: Gentlemen, there are two gentlemen present, Dr. Smith, of Marathon, and Dr. Bellin, of Brown County, who are substituting for delegates unable to be present. If it is the pleasure of the house that they be permitted to serve in the place of those absent, it is for the house to say so by motion.

Motion made, seconded and unanimously carried, to the effect that the above named be permitted to serve in place of those absent.

PRESIDENT: We will now have the report of the Committee on Medical Defense, Dr. G. E. Seaman, Chairman.

The report of the Committee on Medical Defense was presented by Dr. G. E. Seaman, of Milwaukee.

PRESIDENT: Gentlemen, this report is now open for discussion.

DR. EDWARD EVANS, La Crosse: Mr. Chairman, I suppose these things are to be discussed and disposed of. For my part it seems that it is only right to accede to the request of this committee, that the amount of defense annually collected from us should be increased. We, a great medical society, are not paying to our society as much as the hod carriers pay to their Union, and we get far more for it. To bring this before the House of Delegates, I move that the medical defense assessment be increased from $1 to $2.

Motion seconded.

DR. S. S. HALL, Ripon: One moment. Will that be payable at the next annual assessment, or will that extra dollar assessment take place at once?

SECRETARY: I would like to ask the chairman of the committee if the funds on hand would be likely to carry us over until that time?

DR. SEAMAN: I do not believe I can answer that question. We cannot anticipate the cases. We know that the cases are increasing; we know that within recent months cases have come very much faster than they had heretofore, and we think that those things that we mentioned in the report have something to do with the increase in cases; and of course they will be operative right along, if that is true. I would make a guess that we would be up against a deficit before the next due paying time, or at least before next April. Certainly we would be if we had a duplicate of the experience of the past year. I would like to inquire, while I am on my feet, whether the House of Delegates has the power to levy and increased assessment?

SECRETARY: The council would have to take action.

DR. HALL: The House of Delegates enacts, and the council endorses.

DR. SEARS: This could not be retroactive. It would have to be for the coming year, would it not?

PRESIDENT: The dues for the present year have been paid.

DR. SEARS: So it must apply to the coming year.

SECRETARY: I think on the whole it would be subject to misconstruction if we should attempt to collect another dollar for the dues already paid. 1706 members of the Society have already paid their dues. If it should happen, as the chairman suggests, that a deficit should occur before April, and there might not be sufficient medical defense funds, I should think a temporary loan could be made from the general fund before the next dues were collected. At any rate I think it would lead to much dissatisfaction and a great deal of embarrassment on the part of the officers of the Society to collect this extra dollar from those who have already paid their dues for this year, and some might regard it as bad faith on our part.

As far as the general proposition is concerned, there is no doubt about our duty in the matter. I have regarded the medical defense, so far as my impressions received from the secretaries and the members of the Society indicate, as one of the very strongest features of our organization, and one that appeals to a great many men when nothing else appeals to them. They say, "I don't get anything out of it except medical defense." This is particularly so in the sparsely settled counties, where they cannot attend the Society meetings; and it does apply to us all, on the principle of

standing by one another, particularly where we are unfortunate. Most of these cases I do think are purely blackmail, and the subjects are unfortunate, and should receive, not only the sympathy but the financial aid and thorough support of their fellows. This appeals to us all, too, because we do not know how soon one of us may be in like fix ourselves. If one dollar is not enough, we have got to stand by our guns and pay the additional dollar. As long as the recommendation has been made I would cordially support it, that this be sent to the council.

DR. CONNELL, Fond du Lac: I think we have been paying $1 a year for medical defense, and that of course is very light compared with the casualty companies and others that protect us, and if we are going to make a raise at all, I think it would be a wise thing to make it sufficient to be ample, so that we would not have to be doing it right away again. It is quite hard to educate the practitioner, the rank and file of them, as to why this money is necessary, and if we do it now and make it ample, if we have a little excess of money in the treasury, Dr. Hall is always able to take care of it. I would not have any objection to having it raised more than that, so it would be sure to be able to defend anything that would come up.

As a society we are not an infant, and we are not poor any more, and we are paying a niggardly price for our Association, and I think a raise of $2, which would make our cost $6 to belong to the Society, would be acceptable to most people. In our county, with which I am quite familiar, I know that a number of men have joined the Society just because they got the protection. They do not go to the Society meetings at all. They are getting their protection for a dollar a year, and it is too little. I think we ought to make it more and not raise it again. Then I think it should be thoroughly brought out in the state journal why it was done, the necessity for it, so that the secretary would have no trouble in collecting it the next year, and I think it should be put in with the dues of next year.

DR. CURRENS, Two Rivers. There is a point here in the very report. What are we getting for our $2, and are we getting all that we have paid for? Now we come here and pay one dollar, and we have to furnish the fees for our witnesses out of our individual pockets. Here is another point: The Society pays the attorney's fees, but we have to pay the court costs in case we lose, and the money. I would rather pay an indemnity company $10 and be insured flat-footed than fool around. If we are going to do anything, put it up high enough to have an indemnity company, or something on that order. I think it is between the devil and the deep sea. I do not think there is anything to it. I cannot see that we are getting any protection. Simply the attorney fee is all it is. Make it big enough and have an indemnity company, the same as these others have done in the other states. They started, some of them, with their state medical societies, or with county medical societies. It can be done. Anybody who pretends to carry indemnity insurance knows what it costs. You pay $15, I guess, on $2500, I think, or $5000.

PRESIDENT: It has been increased to $25 in most casualty companies.

DR. CURRENS: I have not carried any in the last year or two, but I made up my mind I would. We do a great deal of accident work, and one of our indemnity companies that we worked for had a representative in my office night before last, and he said, it is about time you picked up that indemnity insuranee again. He said, "Your state society is not going to do you much good, it will pay your attorney's fees, but that is all there is in it"; and it is a fact. I intend to take out my indemnity insurance again. If we wanted to go in and form a society ourselves, I think that for $10 or $15 we could carry the thing and make some money out of it, the same as they do. But we could not do it for any less. As it is now, I do not think there is anything to it, I do not think it is worth fooling with—simply paying your attorney's fees. Of course the moral influence may be worth something.

SECRETARY: It is worth a great deal.

DR. CURRENS: I do not care. If a fellow is innocent you cannot control a jury when it comes to the medical defense.

DR. SEAMAN: How about controlling a jury when the cases that have been tried have resulted in the winning of 20 out of 20?

PRESIDENT: We have not lost a single case of those that have gone to trial.

DR. CURRENS: Have not lost a case?

PRESIDENT: Not of those that have gone to trial.

DR. SEAMAN: We had 20 cases go to trial, and won all of them. If that is not worth the $2 a year, I don't know what is.

DR. CURRENS: Sure.

SECRETARY: It is worth a whole lot, and a great many people believe it, and I believe they are right.

DR. CURRENS: Why not try to have it so as to shoulder the whole business?

DR. SEAMAN: That matter has been discussed. The committee has given it some attention, perhaps not as much as they should have, nor as much as they will. But the matter has been discussed, and for the present at any rate, after discussing the question with the attorneys and with the committee, they came to the conclusion that in anticipation of this apparent increase in the number of cases, that it would be wise at this time to increase the fee. The question of forming an indemnity company and having a really adequate fee was also discussed incidentally, but I do not believe we are ready to go into that yet. That is quite a job, and other states have not done it. The state of Illinois increased their fee to two or three dollars, I think it was last year or the year before, didn't they, Mr. President?

PRESIDENT: Yes.

DR. SEAMAN: It was their experience that they could not do it on a dollar successfully. I think Michigan had the same experience. We are going through the experience of these other states. We think at this time it would be wise to increase it to $2. There was some difference in the committee as to whether it should a dollar and a half or two dollars, and I believe it is now the judgment of all the members of the committee that $2, under the conditions at the present time, is sufficient. I would rather see that action taken than any action for more than $2 at the present time.

DR. CURRENS: The reason for my bringing it up was this: we have about 500 accident cases a year, large and small, in Two Rivers. They are all small really, they are all hand and finger cases. I know of 4 cases that were apparently settled. That is, the men drew their wages, they had their local insurance companies, the factory took care of them, paid them three-quarter pay and doctor's bill, and they got a standoff from them to receive their pay and all that. There are two legal firms here in your city that have taken one up for $8000 damages for two fingers. The fellow never thought of having anything to do with it, but they even have men that pose as counsellors or advisers in personal injury cases. So I made up my mind from what I have seen that it was time to wake up and look out for something, because they might pick up something on us fellows. These fellows are after it. Since the law goes into effect the 1st of September, they are done, and now they have got to look for other fields to satisfy themselves. They used to follow the ambulance wagons. I have been very particular in our town about keeping things out of the papers for a number of years, because I never had a case of any importance get into the newspapers but what they would have 30 or 40 notices. I know of one man that had two hands crushed, that got letters from 40 different attorneys offering to take his case for five to ten thousand dollars, and make a settlement. He made a settlement with the insurance company for $5000.

DR. EVANS: I supposed the question of medical defense was not under discussion. That was settled two years ago. The question now is, are we going to pay $2 for it, or try to get along with one dollar. I believe it is worth $2. I have gone through two experiences, one personal, and one helping a friend, and I want to say that while I was not defended by the State Medical Society, because I carry indemnity insurance, the moral support given me by the profession and the cohesion of the profession brought about by this defense feature in this Society, is worth not the $2, not the $3, I pay for medical defense, but it is worth $100 for anyone doing a good deal of work. I think this $2 proposition should go through to-night.

DR. SMITH: I should like to ask a question of Dr. Seaman: What is the method of procedure in an action brought where the doctor against whom the action is brought, has a policy with a casualty company as well as carrying this insurance with the Society?

DR. SEAMAN: In that event he undoubtedly would ask the casualty company to undertake his defense, and he would have the privilege of calling upon the attorney for the Medical Society to assist. The casualty companies issue two kinds of policies, one that pays judgments, and the other that furnishes only defense. The attorney for the State Medical Society Medical Defense Committee would

render upon request any assistance that he could render. And it is quite a valuable thing to have a man who is constantly doing this work as counsel, to give advice to local attorneys, perhaps, and to render assistance in the way of putting the case in the proper light. There is, I think, a good deal connected with the proper defense of a malpractice action that only comes to a man who has given considerable time to the study of malpractice actions.

DR. BELLIN: I would like to ask Dr. Seaman this question: In talking with a representative from the Fidelity & Casualty Co. last week, he informed me that they were going to withdraw from the state; that the cases were getting too thick, and that they were the loser. Have you talked with any representative and received such information?

DR. SEAMAN: Personally I have not, but I have heard that the indemnity companies were complaining of the great frequency of cases of malpractice in Wisconsin, and I presume in other states too. I have heard that complaint, and perhaps Dr. Patek can tell us something relative to that.

DR. A. J. PATEK, Milwaukee: I have not heard that they intend withdrawing. I know they increased their fees about a year ago, and that the cases are multiplying. Our State Society Defense is not by any means controlling all the medical defense in this state; in fact, there are a great many cases that do not come to our notice at all. We have been requested to co-defend with the insurance companies in quite a number of cases. In such cases we have paid our attorney, and part of the expense of the trial has been assessed against us. But most of those cases apply first to the insurance companies, and the greater part of the defense has been assessed against the insurance company. But wherever it has been requested, we have co-operated with those companies.

SECRETARY: You understand, Mr. Secretary of the Committee, that we do pay part of the expenses then, as well as the attorney, in some cases?

DR. PATEK: No, in the report "expense" is there referred to in a technical sense; it means court costs, that is, court costs assessed, that is, damages assessed. We have thus far not lost a single case, therefore, we have never had court costs assessed against us, nor the fees of the attorney of our opponents, the plaintiffs. We have paid so far all the expenses that were necessary in the conduct of a suit.

SECRETARY: Aside from the attorney.

DR. PATEK: Aside from the attorney. We have thus far paid not only our attorney's fees, railroad and hotel expense, and the expense of witnesses whom he has brought there, or whom the defendant doctor has brought there, and expert witnesses who have been there, but we have paid all the court costs incidental to our own defense. Not having been assessed damages, of course we have not been assessed the expenses of the opposing attorney. That, of course, amounts to a considerable sum. And inasmuch as these two or three features are spoken of in this report, I think it might be well to leave that part of it until after this motion or recommendation to the council is passed; then if you will, we should like very much to discuss the further recommendation of the committee, which is merely given you for the sake of discussion, to consider what sort of cases shall be defended, and whether all sorts of cases shall be defended and whether or not part of the costs of the witnesses, expert witnesses, or personal expenses of attorneys and others in the trial, shall be assessed against the doctor himself. But if the discussion is complete on Dr. Evan's recommendation to the council that the medical defense fees, beginning with the next year, which will be the first of January, be increased to $2, I would like to put that motion.

DR. G. WINDESHEIM, Kenosha: I should like to remark that it is not for the house of delegates to recommend to the council any action of that sort. According to our constitution the house of delegates must itself take action, not alone recommend, and the council shall either confirm the action or reject it.

SECRETARY: I think that is correct, Dr. Windesheim.

DR. S. S. HALL, Ripon: Then we must modify the form of motion.

DR. WINDESHEIM: The other question which I wish to talk about is the fact that many members of the State Medical Society pay into the defense fund, or pay that extra dollar for the defense fund, under protest; they do not like the idea. If we add to that defense fund, if we demand more for that defense fund, it will simply mean that a number of the older members especially of the Society will not pay any defense fund; they will simply pay their annual dues, and no defense fund

Therefore, I think it would be wise to not say anything at all about defense fund, but increase the annual dues to the State Medical Society from $3 to $4, and then let the House of Delegates say what shall be done with that extra dollar.

PRESIDENT: Would the House of Delegates have that privilege?

DR. WINDESHEIM: The House has that privilege. The House has the privilege to fix the annual dues, and can then decide what should be done with that money, whether it should be put into the medical defense fund, or whether it should be turned into any other fund.

DR. SEARS, Beaver Dam: I do not think we should hesitate to vote for the motion before the house, adding $1.00 to the cost of medical defense. All must appreciate that the benefits derived are far in excess of its cost.

It is difficult to imagine any one withdrawing because of the additional expense of medical defense. Those who retain membership solely because of the medical defense, surely cannot object or find excuse for withdrawing. In case they should, the little they have in common with professional ideals would make their loss of slight consideration.

DR. S. S. HALL, Ripon: It makes no difference, I think, whether some of the members refuse to pay the extra assessment or not, because if they do not pay it they are not eligible to the defense, and the proportion of money that we receive to the number of men that we may use the medical defense fund for evens it up. We do not have to defend so many, and probably would not have quite so many suits on account of it, that is all. The $2 would then be kept strictly in the defense fund, and it would avoid mixing up the funds of the Society in any way. It seems to me it is preferable to have a direct assessment for a certain purpose and it will avoid trouble such as would arise from having an increase of the dues.

PRESIDENT: As it stands now, any member who is delinquent in the payment of his dues is not eligible to defense. So anyone who refuses to pay the increased assessment must fall in the class of delinquents, and therefore, such a man is not eligible. It would be quite safe, it would seem to me, to let the motion stand as it is, that is, to increase the defense fee, and there is little likelihood that much will be lost. The question before the House is Dr. Evans's motion to increase the medical defense fee from one dollar to two dollars, beginning with January of next year (1914). All in favor of that motion will please say aye.

Motion carried unanimously.

PRESIDENT: It is so ordered.

Gentlemen, that being disposed of, there are one or two of the other features of Dr. Seaman's report that are open to discussion.

DR. M. R. WILKINSON, Oconomowoc: I move that it be left to the discretion of the Defense Committee as to what cases they will defend, and also as to whether they will pay costs in the cases or the cost of what cases they will pay.

Motion seconded.

DR. T. J. REDELINGS, Marinette: I am afraid this is a bad thing. It looks to me as though that will mean a man will hardly know whether he will have defense from the State Society or not. Now a reasonable restriction can be put upon a criminal offense; that is excepted now, as I understand it; a man guilty of a criminal act has no defense through our defense fund.

A man who is licensed to practice medicine in this state, and is a member of this Society, though he be incompetent and does a reckless act, as cited in the report of the committee, still has a reasonable right for his claims in the equity of that fund. It seems to me if we accept him as a member we accept that hazard in accepting him, and it will add complications to our retaining and maintaining our membership if limitations are put upon the kind of cases that this defense fund will protect. Personally I am heartily in favor of increasing the defense dues to a point where we can take full care of the man who is unfortunate enough to fall into the hands of a shyster attorney, and accidentally become the victim of blackmail, which it often is. I do not oppose it at all; that is not the idea; but I do oppose the restriction. In the cases that do not come under the head of "criminal" we accept the risk when we accept the member.

DR. L. M. WARFIELD, Milwaukee: I should like to amend Dr. Wilkinson's motion to read, that this matter be referred back to the committee on medical defense for further consideration, and that a report be made to the meeting of the council in January. I think that will probably give the committee time to talk over this matter a little more fully. As I understand, while they have been having it more or less under consideration,

nevertheless they have not talked about it among themselves, and there are points pro and con in this question of leaving this entirely to the Medical Defense Committee. In a way I believe in it and yet in a way I think it is a great responsibility to thrust upon them. So I move to amend the motion to that effect.

DR. H. W. ABRAHAM, Appleton: I second Dr. Warfield's amendment.

DR. G. E. SEAMAN, Milwaukee: The Committee brought this matter before the House of Delegates for the purpose of eliciting discussion, and particularly with the hope that possibly some suggestion would be made as to how this could be done, with the full knowledge and appreciation of the fact that it is a good deal of discretion to put into the hands of any committee. However, there are cases, where it was very difficult for witnesses and for the committee and for the attorney to defend the action, and cases arise where it will be almost impossible to make a defense in good conscience. Now who is going to decide such a question? There ought to be some solution of it. We merely suggest that the committee be given a limited discretionary power. Certainly that discretionary power should be supervised by the council of the Society at least, but it is a question for discussion and for suggestion. It is a very difficult question, I think, but there is probably some reasonable solution of it.

DR. J. P. CONNELL, Fond du Lac: Mr. President and Gentlemen: Putting that matter in the hands of this committee it seems to me would be very unjust. Now I may be unfortunate enough to have an unfortunate result, where I probably have done my best. But I send it down to this committee, and they decide that I have no claim against the Society. I have been paying the dues for a good many years, and I would expect defense. I think we ought to defend all cases unless they are criminal cases. If we are going to pick out the choice cases, then I do not think this Society is going to do much good. The surgeon that picks out choice cases gets very nice results, but a good surgeon does not pick out nice cases, he takes what comes to him and does his duty. Furthermore, I think every man should know how much he is being protected by this Society. He should not have to go to this committee to know how much it is going to protect him. It is not up to the discretion of the committee. We want to know definitely, and the physicians throughout the state ought to know definitely how much they are going to be protected, and for what. I think they ought to be protected in all legal cases that are not criminal. The jury usually tells you whether they are right or wrong.

PRESIDENT: We want this discussion to be full and complete, because this is perhaps the most important element in the medical defense system.

DR. J. P. CONNELL, Fond du Lac: It seems to me that all the cases the committee refused to take would be prima facie evidence that the doctor was guilty, and that the decision would be made then and there, and if he got out of it he would be lucky. I do not see how you can work anything of that kind at all.

SECRETARY: The point made by Dr. Redelings is incontrovertible, that we must defend all cases which are not of a criminal or immoral character, otherwise the whole thing would be left in confusion. As has been stated, when we accept these men as members of the Society, we take that risk of an unfortunate result, and possibly an unskillful treatment for that matter; but we must defend them; every man is entitled to defense, and that is what we propose to do. It seems to me there is no middle ground we can take with any safety, if we are going to stand behind this defense in any substantial way. If the case is so bad as to be really criminal, the committee has a right to advise settlement out of court. It seems to me that would be the proper way to dispose of those.

DR. SEAMAN: That brings up an important point. The attorney has advised settlement in certain instances, and I do not know that there have been many instances where his advice has not been taken. That is to say, he has advised action that would bring about some sort of a settlement of the controversy in certain instances. Now then, supposing in a case which, as the secretary says, is irretrievably bad, that our attorney says that case should be settled, that is his advice; but the doctor says, "I will not settle, and I will not accept that sort of advice, will not take that action."

SECRETARY: Then let him go on and defend.

DR. SEAMAN: Well, shall we have to continue the defense?

SECRETARY: I think so.

DR. SEAMAN: Of course in an action where the doctor employs his attorney himself, and where the attorney positively advises settlement, the at-

torney would certainly be ethically justified in refusing, and probably if he were a good attorney, would refuse to go on with the defense, or to try the case against his advice. Now are we to go on and defend the case and take a course of action contrary to the advice, opinion and judgment of the attorney upon whom we depend for advice and opinion and judgment. There have not been any instances that I know of where that has occurred up to the present time, that is, any very pronounced instance; but there was one.

Dr. Seaman: The committee is going to carry out the mandate of the Society, but it can be very easily imagined that a case might come up where the Society would have to take a stand; they could not follow the judgment of some man upon whose judgment they would not rely; and the judgment of the doctor who has been sued may not be good; and we pay an attorney to give us advice. The question is whether we shall follow the advice, or whether we shall, without question, without reference to the merits, defend every case under all circumstances, and follow the judgment of the doctor who is sued, rather than that of the attorney who is employed to advise the Society.

Dr. Dawley: It is a pleasure to listen to these discussions. I know but little about law, as you will find out if I am on the floor long, but it seems to me that this Society owes it to itself to put some limitations on the manner of expenditure of this fund. It has ever been known, since we had the pleasure of first paying it, as a defense fund. In the case that the President and doctor have just referred you to, I cannot see any defense in it. I do not think any sane physician can see any defense in it, or any chance for defense, and if we pay a fee, if we furnish money to substantiate a defense in that case for any such physician, I think we are furnishing a fee for the propagation of bull-headedness; I have heard that expression before somewhere, I don't know where. It seems to me all wrong that our money should be thrown away on any such scheme. Hence, I think there ought to be some centralized body somewhere that should have the say as to when we stop paying money in such cases. You can assess me for defense fund just as long as you want to. I have never had occasion to draw on the fund, and hope I never shall; I would rather have my share of the money paid to defend the other fellow; but it seems to me we must put a limitation on the expenditure of that fund. If we have a member of this Society who will do an operation of that kind, and then ask us to perpetually put up for him, and drag us around from court to court, and put up for attorney's fees and witnesses in general, it is simply rot, and our members would leave us rapidly, as soon as anything of that kind should go out broadcast.

Dr. Redelings: I come back to my original contention, that when a child is born into the family, it is the parental duty to take care of it, whether it is a monstrosity, a cretin, an imbecile, or what not. I contend that we by our contract and by our soliciting of a defense fund fee, and by accepting a member, accept these varying capabilities.

Dr. Wilkinson: I would like to say a word or two. After listening to the different ideas in regard to the matter, I agree with the last speaker, that we should look after the newborn babe, rear it, whatever it may be, to the best of our ability; but in dealing with adults supposed to be of equal professional standing with ourselves it is different. We ought to have some basis of judgment on which our money should be expended. I heartily agree with that proposition. There is no way to reach it that I can see, unless by having a double check. Leave it to the discretion of the defense committee, and when it has all the evidence in on which to base its judgment that defense should be denied, submit the evidence and the decision of the committee to the council and have the council finally pass upon the question as to whether the case shall be defended or not. It seems to me that at times things are done which we cannot defend. If this motion is carried, it is for a try-out of the committee. I have complete confidence in the defense committee, confidence that it would do justice, and on that depends everything. Let it err, then have its powers reduced. But I think it would be a safe rule for a time, say six months or a year. Give the committee this privilege, and let it bring in its report at the end of the year, and we can see what has been done. When it has finished its work we can tell whether the work has been well done or not.

Dr. Seaman: I do not want to speak too often on this subject, but I do want discussion of it, and want to bring up the points as they occur. The question is, is the committee or is the council to have any discretion, or are we to expend the money

of the Society in accordance with the judgment of the doctor, or in accordance with this bullheadedness, as one gentleman put it, or are we to devise some system by which we can offer to the man advice along the lines of what a proper defense would be. Every man is entitled to defense; and of course we should do everything we can legitimately, and in good conscience do, but stop where our judgment tells us we should stop, as men of discretion and common sense.

DR. MCCRACKEN: It is undoubtedly true that many cases of palpable malpractice come up, which are very unpleasant to defend, but it looks to me as if a man who is a member of this defense fund has an equity in the fund; and I should think it could be easily adjusted, where it was left to the committee, if they did not feel like defending a man, if the case was one where no adequate defense could be put up, if we could leave it to them to contribute a reasonable amount, an average cost of defending a suit, to the man, and let him go ahead and make his own defense; it would give him all that was coming to him out of that fund, and I could not see any objections to it, and it would relieve the committee from an unpleasant situation.

DR. WARFIELD: I confess that I cannot see Dr. Redeling's viewpoint. I think the committee ought to be given great discretion, and if we are not willing to give the committee great discretion in what I say is a position of great responsibility on their part, then let us give the committee discretion to refer it back to the council. I do not think we should defend every single case that is brought before us willy-nilly.

DR. BANKS: I do not see much sense in arguing this thing. If you go to a Casualty Company it will ask you $15 or $25 for insurance for defense, which covers judgments up to a certain amount. Why, we are trying to stretch $2 to cover these things, judgments and all.

SECRETARY: No, not judgments.

DR. BANKS: We are not paying judgments, but if we undertake to fight cases in which it is very evident there will be a judgment we are incurring expense we cannot carry out on $2 a year. There must be something left to the discretion of the committee. For my part I would be perfectly willing to leave it to the committee.

DR. RIORDAN: I think Dr. Redelings is about right, so far as I am concerned. It seems to me that we accept those members as members of our Society. In a broad sense they are our equals. Of course, strictly speaking, some are better than others, that naturally follows; therefore we assume that liability. The instant they become members they are part of our organization. If we should select some and say, you may enter the defense because you are more competent than the others, and leave the others out, but permit them to join the Society, then that will be all right; but as it is now, you accept those members as members and permit them to come into your Society, presuming that they are just as good as you are. That seems like a broad principle, and it looks right to me. But you might give your committee some discretionary power in this way, as one of the doctors suggested, make provision with them whereby they could accept a certain sum and carry on their own defense on their own behalf, or else say, we shall not go any further, after giving it a reasonable consideration.

DR. REDELINGS: I just want to rise to say this, that I hope nothing which I have said has been construed as doubting the sincerity or the efficiency of this committee. Far be it from me to hold any such thought. I have an abiding confidence in the judgment of this committee. But I take this attitude, that if an indemnity insurance company accepts a man's money, $5, $10, $15 or $25, or $2, and guarantees or assures him, verbally or otherwise, certain protection, and after having accepted that man's money finds that he is professionally below par in his judgment, and does an overt act, it would be a mighty sneaky thing on the part of that company to say: "Here, you have erred in that thing, and we are not going to defend you, we are going to rescind our contract." The point I am contending is this that we have an understood contract with the members of this Society to defend them for malpractice. Now there is no notification as to what the character of that malpractice shall be, except that it shall not be criminal. I think that in this my position should be understood. I am not antagonizing the committee at all; I have an abiding faith in the committee and in the attorney.

DR. H. B. SEARS, Beaver Dam: What is the motion before the house, I would like to ask?

DR. C. S. SHELDON, Madison: The amendment of Dr. Warfield.

PRESIDENT: The motion is on the motion made

by someone in the rear of the house, I think Dr. Wilkinson, that the selection of cases be left to the discretion of the committee, and Dr. Warfield amended that motion that it be re-referred to the committee.

DR. WARFIELD: I amended it to re-refer, and report made to the council.

PRESIDENT: The council cannot take definite action I believe. This is really the body before whom definite action can be taken.

Dr. Redelings, what would you think of the suggestion made by Mr. McCracken, seconded also by Dr. Riordan, that in disputed and doubtful cases —I will not say disputed—in cases that have absolutely no merit at all, such as the one I have cited, and such as the one or two Dr. Seaman has read in the report, what would you think of that compromise, of giving the services of our attorney, and perhaps loading the expenses of the trial, if an individual insists upon the trial, upon the defendant doctor?

DR. REDELINGS: I wish to say to you, Mr. President, that I would subscribe fully and wholly to the judgment of that committee in any act they decide upon in any case. I have that confidence in them. Yet that does not relieve the Society, and I believe that a member of this Society could in a court of equity demand protection in a case of malpractice if he is a member and has paid his dues, and we have accepted his money.

DR. CANTWELL: I move that the motion as amended be tabled, and the fees continue as they are.

DR. SEARS: Mr. President, I am trying to get at the status of the motion before the house. I at least wanted to amend, if not already done, that these matters and these cases be left to the discretion of the committee and the council. I do not know but what a motion was made to that effect, but I was not sure of that.

PRESIDENT: No, he re-referred it to the committee, Dr. Sears, but this is the body before whom this matter ought to be threshed out.

DR. SEAMAN: Mr. President, I think I speak for the committee in saying that the committee will carry out in good faith any order of the Society.

I wish to say this: casualty companies have various agreements, and all of them that I am familiar with use their discretion with reference to the settlement of a case, and insist upon their discretion in the matter; at least they advise settlement, and do make settlements. The important point, it seems to me, is whether we are to follow the advice of our attorney, or whether, following out the system as it is at present, we defend and furnish witnesses and assume to furnish experts wholly on the advice and judgment and desire of the defending doctor. Now casualty companies do exercise discretion.

DR. CONNELL: I think, as Shakespeare says, it is much ado about nothing. There is something in those few cases that were brought up here tonight that is deplorable and the physician probably felt as bad about it as I would, and yet a large percentage of our malpractice cases have been in hands of the better class of men.

Dr. Seaman has unfortunately met this one just now, and possibly will not meet another one again for some time. A doctor who would against the advice of his own attorney and the attorney of the society insist on suit, ought not to be protected of course. I am sorry that we have such men in our society. Now this physician was admitted in good standing by his home society, as our equal, and whoever he may be we should take no middle ground at all. I do not think that suggestion of paying him a certain amount is a good one.

I believe we should defend all legitimate cases as long as we take them into our society as our equals.

They were brought into our country society, and they were recommended by men who knew them as being competent.

Malpractice suits occur in Milwaukee, Fond du Lac and other centers as well as in the little villages, our very best men get them as well as the less pretentious.

If we take any ground at all I think we have got to defend all legitimate cases. If that man in his judgment knows more about the case than his attorneys, takes it into court and loses it, he knows the consequences—he has got to pay four or five thousand dollars.

So I think we ought to assume our share and stand by him, as long as we take him into the society as our equal.

DR. MCCRACKEN: All that the doctor has said is quite true, but there are cases of palpable malpractice that come up, that a man ought not to escape as a matter of equity, and it makes it embarrassing as medical men, to come forward and

defend these cases, and I think it would embarrass Dr. Connell to appear as a witness in some of them and help defend the man that was charged with some conditions that do arise, and I think if the committee had a little leeway in the matter and still made an equitable settlement with the man that needed the defense, I think it would render justice to him and to the society and every one concerned.

DR. CONNELL: I should despise a physician that would go on the stand and deliberately perjure himself, even to protect a physician. If the case is bad and wrong, he has no right as a man and physician to say that the case is right. That is not what I am arguing. As citizens we physicians are under oath, and we should tell the truth, to the jury, regardless of consequences.

I second Dr. Cantwell's motion to table those two former motions.

PRESIDENT: The motion of Dr. Cantwell that the entire matter under discussion be laid on the table, and that the situation as to medical defense remain as it is, is before the house.

(Calls for the question.)

PRESIDENT: All in favor of this motion of Dr. Cantwell's will signify it by saying aye; opposite no.

Motion carried.

PRESIDENT: The ayes have it.

DR. WILKINSON: I call for a rising vote. I would like to say this, that this motion is entirely without any purpose; that the defeat of the other motion will bring about the same thing. Are we to disregard the request of our committee entirely, throw the request aside, and tell it to go on, or are we to give it consideration, discuss the proposition and refer it back to the committee to be taken up and considered later, or what are we to do in regard to it. As far as I am concerned, I have no particular interest in this motion any more than to pay due respect to the wishes of the defense committee, because there is no one of us who may not need their services to-morrow; none can tell; none are proof against accident. It seems to me that to simply cast the thing out and prevent all further discussion, is a mistake.

DR. REDELINGS: In defense of Dr. Cantwell, I think Dr. Cantwell had no such thought in his mind when he made that motion. It appeared to him that it would be the easiest way to dispose of that question at this time. I did not vote for or against the motion, and I speak from an entirely neutral standpoint, just that explanation of Dr. Cantwell's motion.

DR. CANTWELL: I did not understand that this motion was debatable. You had debated pro and con, and I thought the easiest way to dispose of it was to table it, and leave the conditions as they had been in the past; it was much easier than it would be to vote upon an amendment, and then if the amendment was carried, vote on the question as amended, to simply table the motion and leave it for the committee to go on and do just as they had in the past, that is all that made me make the motion.

DR. H. E. DEARHOLT: I think this is rather more a matter of right than of courtesy to the committee which is attempting to do the work of this Association. It is all up to this House of Delegates. I have called for a division of the House.

DR. SEARS: At least I want to state, I take it on this motion, that we are endorsing the committee, and we are giving expression of full confidence in them. Am I right?

SECRETARY: As I understand it, the committee has made no request that we give them discretion. They have simply asked us to discuss the question as to whether this discretion shall be given.

DR. SEAMAN: That is perfectly right.

SECRETARY: They made no request that we should give them this discretion.

DR. SEAMAN: We made the suggestion with the hope of discussion. It is all very well to table a matter which is before a body of this sort if you are through with it, if you have arrived at some solution, or think you have, then if you do not care to discuss it any longer and do not care to take any action, why that is one way of disposing of it, and an effective way, because, as Dr. Cantwell says, it does, under the rules, prohibit debate or discussion. But the very purpose of this report is to elicit discussion, and possibly a solution of some very difficult problems, and the committee says again that they will accept the direction of the Society, whatever it may be, but naturally they would like to have the Society take some action which would promise at any rate some solution of what they think will be rather a difficult problem.

PRESIDENT: As a member of that committee I will say that I am sure whatever action the Society takes would not be considered personal.

DR. CONNELL: I presume this is the question you want to settle, how much of the risks we shall assume. Now shall we leave the risks entirely in the hands of the committee, or shall we curtail them, that is the way I understand it.

PRESIDENT: That is the problem.

DR. CONNELL: Shall we bear all the risks, as, for instance, in those cases that were brought up to-night, or shall we leave it to the committee to limit them at their discretion? Now, personally, I think that is pretty large responsibility on the judgment of a few men. I think we ought to decide whether we assume them all or a part, and if a part, what part, so that we will know exactly our status.

DR. SEAMAN: Just to facilitate matters, I would like to ask Dr. Connell whether he would deem it wise to defer final action on this and leave it to the committee to make a report to the council, or even to the next meeting of the Society, so that the matter will be really gone into perhaps more than it has been by a good many members of the Society, or whether we are ready to take final action now. It seems to me that there would be some advantage in having the thing looked at from all sides by a committee, perhaps outside of the committee on medical defense. And then there is another point. We may assume the defense under any and all circumstances of any and all cases, but we cannot guarantee that any attorney, the attorney that we have at the present time, or any other attorney, will go on and take certain action demanded by certain defendant doctors; that attorney himself will place some limitation upon it, and our attorney has placed some limitation upon it in certain instances. He has had to take a stand.

DR. RIORDAN: I understood that that original motion was to refer this matter back to the committee for further consideration.

SECRETARY: That was the amendment.

PRESIDENT: That was to refer it to the committee, so that the committee might report to the council, but the council is not the body that has jurisdiction over this matter; it is the House of Delegates that must take action on the question.

DR. RIORDAN: I would like to have that motion read.

DR. SEARS: Mr. President, I do not think we understand the status of things here, or just what this vote is to mean.

PRESIDENT: Yes, we understand what this last vote was.

DR. SEARS: I understand the tabling, but I do not understand how that places the committee or our advice to the committee; it leaves that all out.

PRESIDENT: That leaves the situation exactly where it was before the discussion came up, and compels the committee to defend all cases that come and ask for defense, irrespective of merit.

DR. SEARS: I think we all have confidence in the committee, and I think we would like to express it. It seems to me it is rather questionable whether we are doing the right thing by this vote.

PRESIDENT: The committee has not touched that question, and will not think it lack of confidence if this action is taken, but we want the Society to enforce its own opinion in this matter.

DR. DEARHOLT: I would like to suggest that we have had repeated calls for a vote upon this question, and I would like to ask that the Chair make a ruling showing clearly just what the question before the House means.

PRESIDENT: At the present moment there is no question before the House, because a motion to table the motions upon which we were debating, has been lost.

DR. DEARHOLT: There was a division of the House called for, Mr. President, which has not been honored by the Chair.

PRESIDENT: I do not want to close off the discussion too quickly. A division was called for, Dr. Dearholt, and I will call for a rising vote now.

DR. DEARHOLT: Will you explain, before that rising vote is taken that has been called for, clearly enough so that the members will understand distinctly what we are voting for before they arise, on one or the other side of the question.

PRESIDENT: In that rising vote on the motion of Dr. Cantwell to lay the entire matter under discussion upon the table, it does not re-refer it to a committee, but leaves the status of medical defense where it has been the last several years, that is, it gives every member of the Society who pays his defense dues, the right to demand and to obtain medical defense in any case save a criminal case, that may be charged up against him.

PRESIDENT: I will ask anly delegates to rise. All those in favor of Dr. Cantwell's motion, that the entire question be tabled, will please rise.

13.

All opposed to tabling the motion will please rise.

18.

The motion is lost.

DR. WARFIELD: I call for a vote on the amendment. I think that amendment was that the question be referred to the committee for further consideration, and that they should report to the council at the next meeting in January or at some early date. As I understand it, the council has the power to say what shall be done with the funds. You tell me that the council cannot settle this question.

PRESIDENT: It cannot.

DR. WARFIELD: Cannot the council give us advice, together with the report of the committee, so that next year we may know exactly what we are going to do.

PRESIDENT: The council can act in an advisory capacity, but that is merely gratuitous action on its part. The council advises you to use those funds if demand is made upon that council by this legislative body, but the council cannot legislate. The council cannot direct the committee that it may or may not defend.

DR. WARFIELD: To make matters simple, I withdraw my amendment then.

DR. WILKINSON: I made the motion, and as the amendor has withdrawn his amendment, and after the discussion which has taken place, I really feel that a different motion should be made; that we should really reverse the committee's wishes in this respect. They have asked us to find a solution; I think we should refer it back to them for them to find a solution, and submit their findings to us for action.

DR. SEAMAN: Next year?

DR. WILKINSON: Yes. It is difficult for us to find a solution. They know ten times or a hundred times more about this work than we do, and they ask us for a solution. They are the ones to find the solution and bring it to us for endorsement. Upon anything reasonable we will all be prepared to take favorable action. With the consent of the House I will withdraw my motion. In its stead I move that it is the express wish of the House that the committee should continue the work as they have in the past, and at the same time gather together such material and data as they can, upon which to formulate a plan by which we can give them at least limited discretionary power.

PRESIDENT: Is there any second to that motion.

DR. CANTWELL: You have debated a motion for over an hour. That motion has been seconded. The second to that motion is now before this House, and under no kind of ruling I ever heard of can you withdraw a motion after it has been debated the length of time that motion has been debated. The motion before this House is on the amendment.

PRESIDENT: The amendment has been withdrawn.

DR. CANTWELL: You cannot withdraw an amendment after it is open for discussion.

DR. WILKINSON: I wish to inform the gentleman, it can be; both the amendment and the motion can be withdrawn after it is discussed for days if the same meeting continued that length of time. Any motion once before the House and seconded, is the property of the House. I, with the consent of my second, wished to withdraw my motion, and there was not a dissenting voice. One voice could have stopped the withdrawal of the motion. It must be by unanimous consent; when that is given, any motion can be withdrawn, and if Dr. Cantwell objected to my withdrawing that motion he could have prevented it, but cannot now.

PRESIDENT: The motion may be put, and of course it would be lost anyway in the vote.

DR. WILKINSON: It seems to me this time is not lost. This hour of discussion is of value. We have simply found out that we are not ready to settle the matter.

PRESIDENT: There is a motion before the House. Are you ready for the question? The motion is that the formulating of a report for presentation to the House be deferred until next year. Is that about what you want?

DR. WILNINSON: My idea was that the matter be referred back to the Committee on Defense, with a request that they furnish the data and find the solution by which we can grant them discretionary powers, their report and proposition to be submitted to us next year, and in the meantime that they are to go on as in the past.

PRESIDENT: Dr. Wilkinson's motion is before the House. Are you ready for the question?

Motion put.

PRESIDENT: The motion is carried.

DR. SEAMAN: The gentlemen in the back of

the house do not know what the question that was voted upon, was, so I think they ought to know.

PRESIDENT: The question voted upon was leaving the status of the medical defense exactly as it is at present, and in the year to come the committee is to attempt to formulate some sort of a recommendation which it will submit to the House of Delegates next year; so the status of medical defense remains exactly as it was, and all cases except the criminal cases are still defensible, and will be defended without question.

Dr. Seaman, I want to ask whether that satisfies all the recommendations of that committee—is there any further discussion on that report?

DR. SEAMAN: No, I do not think that there is. It is up to the committee to do whatever the Society wants.

PRESIDENT: Dr. Seaman, there was a paragraph in that report regarding the payment of some of the expenses, such as expert witness fees. I will say that thus far we have paid no expert witness fees, although we have bills for expert fees that must be paid. Doctors have left their practices for periods of time, 4, 5 and 6 days, men who were willing to do it, who could not well afford to do it, and it is no more than right they should be paid for their time, and they will be paid by this committee for their time. Now the question raised was, who shall pay for the expert witness fees, because the defendant doctor may say that he has the privilege of asking half a dozen different men to testify for him. Who shall pay for that defense? That was the question we had under discussion.

DR. SEAMAN: That is a question I do not think there would be any profit in discussing here, first, for the reason that our attorney advises us that under the present rule there is discretion allowed in that matter; secondly, the council has the power to take up questions of that sort at the present time, and, inasmuch as the motion was to the effect that we should operate for the next year at least under the present rule I do not think that this is a subject that we need to discuss. I will say incidentally, however, that while we have not paid any fees to doctors for testimony, that we have called upon men for testimony, and their testimony was necessary, where it cost them considerable to leave their practice and go away, and spend 3 or 4 or 5 days, and, while some men are perfectly willing and feel that they are able to do that, other men, no matter how willing they might be, are not able to do it, and consequently the committee must have some discretion as to the payment in certain instances of fees, or that kind of service; but I believe that the rules at the present time cover that.

DR. T. L. HARRINGTON: I should like to inquire what relative number of the cases that have been tried would come under the head of surgery, and what number under the head of internal medicine. I make the inquiry for the reason that some practitioners have complained rather bitterly that they have been required to put up fees to defend surgeons in malpractice suits. I simply wanted to know as a matter of general information what relative number of these cases are surgical, and what malpractice suits would come under the general head of internal practice, or internal medicine.

PRESIDENT: I will say, Dr. Harrington, that almost all cases are surgical. Here is a case due to amputation, one of diphtheria, which is medical, a fracture, chloroform death, gall bladder case, injured hip, ophthalmia neonatorum, Potts' fracture, case of uterine pregnancy, criminal operation, fractured hip—almost all cases are necessarily surgical.

If the medical defense matter has been disposed of, we will next listen to the report of the Committee on Public Policy and Legislation, Dr. McMahon, Chairman.

The report of the Committee on Public Policy and Legislation was presented by Dr. J. P. McMahon, Milwaukee, as follows:

To the House of Delegates of The State Medical Society of Wisconsin:

The only matters which engaged the attention of your committee since the last annual meeting were subjects of medical legislation. As usual, a number of good, bad and indifferent measures were proposed before the 1913 session of the legislature. Those passed were numerous and of a progressive character. In fact lay and medical people interested in furthering health legislation observed with pleasure and with promise for the future that the members of the legislature in committee and on the floors of both houses as well as Governor McGovern and other state officers, with one notable exception, were more interested than ever before in public health measures. Contrary to past experience, they were disposed to increase the powers and appropriations of the State Board of Health and to make the local boards more responsible through the central body. The notable exception refers to a man who has been active and prominent in legislatures for a number of years and who has always been found combating desirable

health measures and advocating undesirable ones, such as the chiropractic and allied measures.

Two of the more important bills, one proposing the reorganization of The State Board of Medical Examiners and the other providing for the reorganization of the State Board of Health, were introduced, at least in a measure, as a result of discussions on the desirability of such reorganization by members of this house during the last three annual sessions.

While it would seem that it should be the particular mission of the State Medical Society to introduce and further legislative measures for the safeguarding of health and for the prevention of disease, we can not lay claim to having fulfilled this mission to the extent which might be desired. A number of the statutes enacted on this subject were advanced by The Wisconsin Anti-Tuberculosis Association, by the State Board of Health, by lay organizations and some bills were originated by professional and lay members of the legislature.

The bill providing for the reorganization of the State Board of Medical Examiners was drawn under the direction of that board by their attorney, Mr. A. C. Umbreit. It was amended upon the advice and with the assistance of the Medical Society of Milwaukee County. A more or less ideal bill was introduced (a copy of which appeared on Page 296 of the February, 1913, issue of The Wisconsin Medical Journal), but, unfortunately, it made little progress. Its failure to pass was due chiefly to the fact that its provisions were in advance of the times. They were in advance of the minds of most of our own membership as well as in advance of the thought of the laity.

The failure of passage of the clause requiring an equivalent to one year's work at the University of Wisconsin before entering upon a course in medicine is particularly regrettable because, although the two medical schools in the state at the present time exact this requirement, many applicants for a license to practice in Wisconsin are still graduated from schools which have not as yet adopted this standard of preliminary education. In this connection, it is interesting to note that the Dental Practice Act, as amended during the last session, requires the same degree of preliminary education as does the present Medical Practice Act. The requirements of the Dental Act in this respect are in advance of the requirements of any other state, due mainly to the efforts of Professor C. E. Patzer, who has for several years served as the official examiner for those desiring to take up the study of dentistry.

It is to be hoped that a more successful attempt to reorganize the State Board of Medical Examiners may be made during the next session.

The original bill providing for the reorganization of the State Board of Health, better known to most of you as the Peavey Bill, was drawn by Assemblyman H. H. Peavey, Bayfield, with the advice of members of this society and others interested in public health and sanitary measures and with the assistance of the Legislative Reference Library. It was undertaken at a rather late date and did not receive the careful consideration which the importance of the subject merited before it was presented to the assembly. A sub amendment was offered by the State Board of Health and other amendments were made in committee, some of which were forward steps while others were backward. It does seem that the duties of the executive officer of the State Board of Health are sufficiently numerous and the responsibilities sufficiently important to demand all of one man's time. The State of Wisconsin, which has not been slow to establish commissions and command expert service at the established salary of $5,000.00 annually, should have appropriated sufficient funds to pay at least that amount to its chief health officer and thereby demand full time service. An appropriation of $60,000.00 to carry out the provisions of the health act in an efficient manner would have been nearer the required sum than is $40,000.00. Taken as a whole, however, the act is much better than the old law; and, if the same rate of progress can be continued through two or three sessions more, we shall have an ideal health and sanitation law.

In order to give you a better understanding of the provisions of the more important desirable acts passed and of the far-reaching mischief contained in the undesirable bills which were defeated, a brief consideration of the separate acts and bills of both classes is included in the report.

The more important provisions of the present health act are as follows:

The State Board of Health shall establish the following bureaus together with such other bureaus as said board may from time to time determine:

(1) Bureau of vital statistics.

(2) Bureau of sanitary inspection and sanitary engineering.

(3) Bureau of tuberculosis and contagious diseases.

(4) Bureau of public information and education.

The secretary and executive officer of the State Board of Health shall hereafter be known as the state health officer.

The State Board of Health has been granted almost unlimited power to adopt and enforce rules and regulations governing the disposal of sewage, garbage, etc., and the sanitary conditions of streets, alleys and cesspools.

The board has power to determine what constitutes a nuisance, to prevent the creation of a nuisance, as well as to compel the abatement of one which has become established.

To maintain quarantine effectually, a new quarantine notice is provided for which reads as follows:

> "All persons are forbidden to enter or leave these premises without a special written permit from a health officer having jurisdiction and all persons are forbidden to remove, obscure or mutilate this card or to interfere in any way with this quarantine without written orders from said health officer under penalty of a fine or imprisonment."

Local boards of health are empowered to employ police guards if quarantine is violated or an attempt at violation of quarantine has been manifested. When a nonresident indigent person is quarantined in a township,

village or a city, the expense for necessary nursing, medical attention, food, etc., shall be paid by the town, village or city where such person is a legal resident or by the county where the county system for the care of the poor has been adopted, provided that a sworn statement of such expense is sent to the proper town or city officers within thirty days after the quarantine has been removed.

The board shall regulate the construction and operation of all slaughter-houses not subject to regulation by the Federal Government and to make and enforce orders necessary to the perfect sanitation of slaughter houses.

The board may adopt and enforce rules and regulations governing the duties of all health officers and health boards.

The State Board of Health is authorized to provide for biennial conferences of health officers and health commissioners of cities, villages and townships.

All rules, regulations and orders promulgated by the State Board of Health shall be prima facie lawful and in force until they are declared otherwise by a court or until altered or revoked by the State Board of Health.

Any member of the State Board of Health shall have power to administer oaths, certify to official acts, issue subpoenas, compel the attendance of witnesses, and the production of papers, books, documents, and testimony.

The state health officer may issue warrants to any sheriff, constable or policeman to apprehend and arrest persons who destroy the quarantine orders or other rules and regulations of the board.

The board has power to employ from time to time competent persons to render sanitary service and make or supervise practical and scientific investigation and examinations requiring expert skill.

The State Board of Health is required to co-operate with the several educational institutions in the school system of the state in disseminating information to the public in all matters pertaining to health and it is empowered to use the research facilities of the University of Wisconsin under such rules and regulations as may be agreed upon by the regents of the University and it is required to facilitate the special instruction of students in sanitation, hygiene and vital statistics in any school or departments of the University of Wisconsin.

The State Board of Health is authorized to distribute free to physicians and midwives a supply of 1% solution of silver nitrate for use in the prevention of Ophthalmia Neonatorum.

The State Board of Health is authorized to co-operate with the United States Geological Survey in determining to what extent the natural waters of the state are being contaminated by sewerage, by cities' industrial waste, creameries, etc.

Provision is also made for the investigation of water borne diseases and the location of the best sources of water supply.

The State Board of Health is authorized to protect the public health and safety in hotels and restaurants. The terms "hotels" and "restaurants" have been defined and they are required after January 1, 1914, to pay to the State Board of Health an annual inspection fee.

The board has been empowered to determine wherein the common towel is inimical to public health and to insist upon individual towels being placed at the disposal of guests.

DEPUTY STATE HEALTH OFFICERS.

The State Board of Health shall from time to time divide the state into five sanitary districts and appoint for each district a deputy state health officer.

The deputy state health officer shall possess the same qualifications required of the state health officer and may hold office as long as his services are efficient.

Each deputy state health officer shall receive an annual salary to be fixed by the State Board of Health, but which shall not exceed $3,000.00 and all actual expenses.

The powers and duties of the deputy state health officers are co-ordinate with the powers and duties of the state health officer throughout his own district.

He shall carry out the instruction of the State Board of Health and make such investigations and reports as said State Board of Health may require.

He shall, when required, with the help of local health officers, inspect and report upon the sanitary conditions of streams and sources of public water supply, schoolhouses, dairies, creameries, slaughter-houses, workshops, factories, etc.

He shall make careful inquiry as to the effects of different kinds of employment upon the health of employes and operators, with special reference to tuberculosis and to lead and phosphorous poisoning and other industrial diseases.

He is authorized to enforce any public health statute or rule or regulation of the State Board of Health or of any local board of health or health officer within his district, when such local board of health or health officer neglects or refuses to perform his duty.

He shall also perform the following duties:

(1) Keep himself informed as to the work of each local health officer within his district.

(2) Aid each local health officer within his district in the performance of his duties, and particularly upon the appearance of any contagious disease.

(3) Assist each local health officer within his district in making an annual sanitary survey of the territory within his jurisdiction, and in maintaining therein a contagious sanitary supervision.

(4) Call together the local health officers within his district or any portion of it from time to time for conferences upon the authority of the State Board of Health.

(5) Adjust questions of jurisdiction arising between local health officers within his district.

(6) Study the causes of excessive mortality from any disease in any portion of his district.

(7) Promote efficient registration of marriages, births, deaths, and accidents.

(8) Inspect from time to time all labor camps within his district, and enforce the regulations of the State Board of Health in relation thereto.

(9) Endeavor to enlist the co-operation of all the organizations of physicians within his district in the improvement of the public health therein.

It is thus seen that the power and authority of the deputy state health officers are those of the State Board of Health and state health officer; that the duties are manifold; that the deputy state health officers are intended to connect intimately the work of the State Board of Health with the local boards of health and local health officers throughout the state; that these deputies are afforded an opportunity to render an inestimable service and that they are destined to become very important personages, whose acquaintance should be cultivated by the local health officers and all practicing physicians.

LOCAL HEALTH OFFICERS.

The term of the local health officer is extended to two years. The local health officer may be discharged by the local town or village board or by the common council, either upon its own initiative or upon the recommendation of the State Board of Health for neglect or refusal to perform his duties. The local board is empowered to appoint immediately a new health officer.

Local health officers of towns, villages and cities are, of course, subject to the provisions of the public health laws and they are made subject to the rules and regulations of the State Board of Health under the direction of the deputy state health officer. Their activity will be much greater than in the past as evidenced by the following duties which they are required to perform under the direction of their respective deputy state health officers:

(1) Make an annual sanitary survey and maintain a continuous sanitary supervision over the territory within their jurisdiction.

(2) Make a sanitary inspection periodically of all school buildings and places of public assemblage, and report thereon to those responsible for the maintenance of such school buildings and places of public assemblage.

(3) Promote the spread of information as to the causes, nature and prevention of prevalent diseases, and the preservation and improvement of health.

(4) Take such steps as may be necessary to secure prompt and full reports by physicians of communicable diseases, and prompt and full registration of births and deaths.

(5) Enforce within their jurisdiction the provisions of the public health law and the rules and regulations of the State Board of Health.

(6) Attend the annual conferences of sanitary officers called by the State Board of Health, and local conferences within his sanitary district to which he may be summoned by the deputy state health officer upon the approval of the State Board of Health.

(7) To close schools and churches; forbid public gatherings, etc., when deemed necessary to control epidemics.

HEALTH LEGISLATION WITH REFERENCE TO SCHOOLS.

The state superintendent of public instruction is authorized to inspect and, if necessary, condemn any school building until such buildings shall have been placed in a safe and sanitary condition by the local authorities. For failure to keep the school in proper condition, the district forbids its apportionment of school funds.

The use of the common drinking cup is prohibited in public, parochial and private schools.

Each teacher in any public school is required to devote not less than thirty minutes each month when school is in session to impart instruction as to ways and means of preventing accidents. The state superintendent is required to publish a book to be used by the teacher in giving such instruction.

Sweeping in any public place, public, parochial or private school is prohibited unless vacuum cleaners are used or reservoirs with properly filled dustless brushes or unless the floor is first sprinkled with water or saw dust.

The anti-tobacco and anti-cigarette law, affecting those under the age of 16, has been made much more stringent.

TUBERCULOSIS.

Tuberculosis was the subject of special legislation to the extent of advancing aid from $3.00 to $5.00 per week for each patient cared for in a county sanatorium. $50,000.00 a year is appropriated for this purpose. Commitment of careless consumptives to proper sanatoria has been provided for. County boards have been authorized to employ visiting nurses who shall act as consulting experts on hygiene for all schools not already having medical inspection. It is the particular duty of these nurses to give instruction relative to the hygienic measures to be observed in preventing the spread of tuberculosis.

The State Board of Control was authorized to establish and operate a camp and farm in the forest reserves in which persons who are threatened with or who are recovering from tuberculosis may be received and cared for. The State Board of Forestry is authorized to co-operate with said board in the erection of such camp and shall co-operate with the State Board of Control in the employment of persons received into said camp. The College of Agriculture of the State University is authorized to instruct and aid patients in farming and gardening. An annual appropriation of $10,000.00 was made for the establishment and maintenance of the camp. The charge to each patient shall not exceed $3.50 a week.

MARRIAGE LAWS.

With respect to marriage the following was enacted:

Applicants applying for a license to marry are required to sign a statement in the presence of two witnesses that neither of them has been divorced within one year, that neither is epileptic, insane or idiotic and that they are not within the prohibited degree of consanguinity. The marriage of parties who are nearer of kin than second cousins is prohibited. All males, making application for license to marry after January 1, 1914, shall within fifteen days prior to such application be examined as to the existence or non-existence in such person of any venereal disease. County clerks are pro-

hibited from issuing a license to marry unless a medical certificate is presented.

Persons applying for a special dispensation for marriage shall have been a resident of the state for at least thirty days before such dispensation may be granted.

Along the same line with the requirement that applicants for a license to marry be required to furnish a certificate as to the non-existence of venereal disease may be mentioned that Chapter 516 provides that it shall be the duty of every physician to report by number all cases of syphilis and gonorrhoea occuring in his practice to the State Board of Health at such time and in such manner as the Board of Health may direct. The necessary blanks will be distributed to all physicians in the state.

STERILIZATION OF THE MENTALLY IRRESPONSIBLE STATE CHARGES.

Chapter 693 provides for the appointment by the State Board of Control of one surgeon and one alienist who shall co-operate with the superintendent of state and county institutions in examining into the mental and physical condition of all persons legally confined. If the superintendent, the surgeon and the alienist find that procreation is inadvisable in any case, such operation as may be necessary to prevent procreation is legalized provided each operation shall be sanctioned by the State Board of Control.

MISCELLANEOUS.

Embalmers are forbidden to advertise, practice or pretend to practice the art of embalming by either arterial or cavity treatment unless they possess a license to do so.

The common council of any city has been empowered to employ obstetrical and visiting nurses.

City councils, village or town boards are authorized to use any moneys derived from liquor licenses for the prevention of disease and for the administration of public health measures.

A pharmaceutical experiment station has been established in connection with the Department of Pharmacy of the State University.

ANTI-FEE-SPLITTING.

The matter of dividing professional fees is one which has received the attention of members of medical societies ever since the organization of the American Medical Association. It has been the subject of discussion by members and officers of this society on different occasions during the last ten or fifteen years, but a solution of the problem seems to have baffled all who gave it consideration. Finally, after failure to settle the matter within the profession, our legislature in common with the legislatures of several other states passed a law defining fee-splitting or commission giving, declared the practice to be a misdemeanor, and fixed a heavy penalty upon those found guilty of such practice. The present anti-fee-splitting bill in Wisconsin was conceived of by the Dane County Medical Society, but its passage was brought about almost entirely by the efforts of Dr. Arthur S. Sullivan of Madison and Senator E. F. Kileen of Wautoma.

OPTOMETRY.

Among the undesirable bills which engaged the attention of your committee was the optometry bill, which as most of you know, was finally passed by both houses of the legislature, but was vetoed by Governor Mc Govern. A most charitable characterization of the Optometry Bill passed pronounces it the boldest attempt ever undertaken to legislate a handful of unprepared men into a profession under guise of protecting the public. The provisions of the bill were general and vague in the extreme. It required alsolutely no preliminary education, nor did it specify subjects upon which examinations were to have been held. The Governor's veto message says in part: "The bill is lax and defective in a number of ways. If enacted into law, I am satisfied that it would do more harm than good and it may be the wrong road." Notwithstanding the fact that laws purporting to regulate the practice of Optometry have been passed in a goodly number of states, the majority of those most competent to judge and whose only interest in the matter is the actual safeguarding and protection of the public, still do not see the necessity for any form of Optometry legislation save that which would for all time to come legislate those who are now presuming to examine and pass upon the refractive and other conditions of human eyes out of professional existence. Indeed the great majority of the so-called Optometrists are practicing medicine illegally at the present time. They have been permitted to do so in this state because of the lack of funds with which to prosecute a test case.

THE DRUGLESS PRACTITIONERS BILL AND THE CHIROPRACTIC BILL.

Both of these bills, of course, demanded obstructive treatment. They were subjected to immediate and determined opposition which brought about their early and we hope permanent defeat.

The drugless practitioners bill proposed to establish a board to be known as The State Board of Examiners of Drugless Practitioners. The board was to have been composed of five adult residents of the state who had been for more than one year in the active practice of some system of relief or cure of human ailments by drugless methods. Appointments were to have been made by the Governor from names nominated by each society of drugless practitioners, no two members of which could have been appointed from the same school of drugless healing. Any adult person of good moral character who had been in active practice for three months prior to the passage of the act and any adult person who had completed a two years' course of not less than six months in each year in any residential school of drugless healing was to have been eligible to a license upon establishing proof of such practice or upon the presentation of his or her diploma. The board was to have had biennial meetings and all applicants, except those specified above, were to have been exam-

ined in anatomy, physiology, histology, pathology, symtomatology, hygiene and food chemistry. The bill was absolutely silent upon the subject of preliminary education and upon the nature of the course which would have entitled those in attendance in any residential school to a diploma. It is readily seen that the board was to have been a licensing board rather than an examining board, but it is very difficult to understand wherein the bill would have afforded any form of protection whatsoever to the public.

The chiropractic bill was similar to previous bills purporting to regulate this sect. It seemed to have had its inception in a chiropractic school in and about Antigo. The bill provided for a board composed of three members. The members of the board were to have been licensed at its first meeting. All practicing chiropractors were, of course, to have been licensed without examination upon payment of a fee. No provision was made establishing a standard for preliminary or professional education. Those entering upon the practice in the future were to be submitted to practical examination on the subjects of anatomy, physiology, symptomatology, chemistry, hygiene, dietetics, pathology, nerve tracing, diagnostics, chiropractic orthopedia, principles of chiropractic and adjustments as taught by chiropractic schools and colleges.

SURVEY OF THE BLIND.

The Wisconsin State Association for the Blind introduced a bill proposing to establish a commission to make special reference to cause and prevention and to establishing the steps necessary to improve the condition of a complete survey of the subject of blindness with those already blind. The bill asked for an appropriation of $5,000.00 with which to carry on the investigation. It was furthered by Mr. Simon Kander, President of the Association, Miss Elsie Levy, Principal of the Milwaukee School for the Blind, and Dr. G. I. Hogue, Secretary of the Association; but, unfortunately for the blind, the legislature refused to establish additional commissions or to appropriate money to carry on the survey.

It is thus seen that important matters with reference to public health and medical sociology, emanating from different sources, are presented in ever increasing numbers for consideration by each succeeding legislature; that it is as important and as difficult to combat undesirable and mischief-making measures as it is to advance worthy legislation; that at the most all your committee on public policy and legislation can hope to do is to outline the work to be accomplished during each biennial session. Health legislation must be guided, not by a lobby of irregular medical sects, quacks, mountebanks, charlatans, religious impostors, and manufacturers and dealers in impure foods and drugs, but by these actuated with a conscientious desire to prevent disease, prolong life and alleviate suffering. In order to accomplish this, a new order of things must be established, a more active interest must be taken. This work must not be left to the committee nor to the officers of the component societies. The duties, responsibilities and opportunities for service are sufficiently important to command the active and cordial co-operation of every physician in the state and of every citizen who is desirous of enjoying the benefits and protection which the right kind of legislation affords. Given this co-operation, health and sanitation laws will not suffer at the hands of pseudo medico-religio-socio sects or cults and adulterators of foods and drugs, no matter under which name they may choose to operate. For the majority of every community are intelligent and all that is necessary to enlist the active interest of intelligent people in matters pertaining to their well being is to point the way and they will be found gratefully responsive.

Mention has been made of the service rendered the cause of public health and medical legislation by Assemblyman H. H. Peavey, of Bayfield, by Senator E. F. Kileen, of Wautoma, by the Wisconsin Anti-Tuberculosis Association, by the Wisconsin Association for the Blind and by other lay and philanthropic organizations. It would be difficult to commend all who took an interest in these subjects, but the paragraph would not be complete without acknowledging the service rendered by Assemblyman M. J. O'Connor, of Waushara, in behalf of the bill proposing the reorganization of the State Board of Medical Examiners, and the service rendered on all health bills by Dr. Robert W. Monk, Senator from Clark County. But above all, the gratitude of the members of this society and of the people of the whole state is due Dr. George E. Hoyt, Senator from Waukesha County, for the diligent, efficient and result-getting service rendered in behalf of all public health, sanitation and medico-sociologic legislation enacted during the last three sessions. We are pleased to learn that Dr. Hoyt has decided to continue serving these interests in the capacity of Deputy State Health Officer for the first district.

The expenses incurred by the committee were somewhat more than those incurred during the last three or four sessions. It amounted to $209.96.

An itemized account of these expenses is on file in the chairman's office.

In conclusion, it is with regret that the majority of your committee announce the resignation of Dr. A. W. Gray as chairman, the duties of which position he discharged with rare judgment and ability for six years, during which time much important health legislation was enacted and many undesirable measures were defeated.

J. P. McMAHON, M. D., *Chairman.*

PRESIDENT: This most excellent report of the chairman of the committee is now before you for your consideration.

DR. G. E. SEAMAN: I move that the report be accepted and published.

Motion carried unanimously.

PRESIDENT: I do not want to let this opportunity pass to acquaint the members with the devoted services rendered by Dr. McMahon. He leaves himself out of the question entirely. The work that he did cannot be repaid even by a motion

of the House, but I would like to see some sentiment expressed here, indicating that the House is satisfied with his services and appreciates them.

DR. W. T. PINKERTON: I move that the House of Delegates indicate by a rising vote their appreciation of the services of Dr. McMahon.

Motion unanimously carried.

DR. MCMAHON: I thank the House of Delegates very much.

We will next listen to the report of the Committee on Publication, and I will ask Dr. McMahon to kindly read that report.

The report of the Committee on Publication was read by Dr. J. P. McMahon as follows:

REPORT OF PUBLICATION COMMITTEE.

It is with great and undisguised gratification that we present this the fourth report of our stewardship of this publication since its control passed from private hands into those of the Society. Those who have read its pages have, we hope, been favorably impressed with the excellence of the reading and editorial matter presented. We had previously promised that as soon as the expiration of then existing advertising contracts made it possible to do so, our advertising pages would be purged of any and all advertisements not countenanced by the Council of Pharmacy. We are pleased now to present to you a magazine that is, in this respect, flawless, from cover to cover, and compares in this respect with any other Journal published.

As announced in last year's report, it had been decided to alter the form of the Journal. This change went into effect in June, 1912, and we believe the Journal has gained greatly in general attractiveness. While the cost which the printing of this change entailed amounted to about a 7.5% increase, this has been more than offset by the increased rate of advertising space.

A comparison of the estimated cost of the Journal during the years 1910-1913 is interesting:

Average cost of single copy, Jan. 1, 1910 to June 1, 1910 (5 months)—6½ cents.

Average cost of single copy, June 1, 1910 to June 1, 1911 (12 months)—3 1-3 cents.

Average cost of single copy, June 1, 1911 to May 1, 1912 (11 months)—4 1-6 cents.

Average cost of single copy, May 1, 1912 to October 1, 1913 (17 months)—5½ cents.

Average cost of single copy prior to Jan., 1910, 10 cents.

The discrepancies here shown are attributable to changes in income from advertising, and to increased cost of publication. As stated in the last report, a movement had been started by the several state owned journals to establish an advertising agency and have a solicitor devote all of his time to securing contracts for the journals represented in the agency. The Illinois, Michigan, Ohio, Indiana and Wisconsin State Medical Journals finally secured the services of a representative on a commission basis. The representative worked for three months, but was not successful from his own or from the Journal's view points. He resigned.

On December 1, 1912, another advertising solicitor took up the work on a $25.00 a month guarantee from each Journal. According to the agreement, commissions were charged against the monthly allowance. This representative continued in the employ of the Journals for six months. He secured sufficient business for some of the Journals to earn all the moneys advanced. He was not so successful in securing business for the Wisconsin Medical Journal. At the end of the second month, he had secured contracts, commissions on which amounted to only $29.31 to charge against the $50.00 advanced to him. We discontinued advancing money at this time with the understanding that he might continue to secure contracts for us on the straight commission basis. We have received no contract since discontinuing his allowance.

It is with pleasure that we call attention to the excellent service rendered by the editor, Dr. A. W. Myers. The publication bears the stamp of his individuality, and we trust he will not deny us a continuance for the future of the good work of the past.

Words of unstinted praise are due our managing editor, Dr. J. P. McMahon. He has shown a rare devotion to this work, and his supervision has been characterized by an idealism that has entailed a financial loss to himself of no inconsiderable amount.

The present financial report which is appended, covers a period of seventeen months, May, 1912, to October, 1913, and any comparison with the cost sheet of last year (11 months record) must bear this in mind.

We invite your attention to the financial statement appended hereto.

Respectfully submitted,
ARTHUR J. PATEK,
Chairman Publication Committee.

THE WISCONSIN MEDICAL JOURNAL.

STATEMENT OF EARNINGS, EQUIPMENT, EXPENSES AND CIRCULATION (17 Mo.), MAY 1, 1912, TO OCTOBER 1, 1913.

Total Expenses.

Equipment	$ 1.80	
Printing	3,297.59	
Salaries	1,844.50	
Commissions for securing $3.691.94 worth of advertisng contracts	1,011.22	
Postage	353.20	
Current Expense	187.82	
Microscope account, halfones and miscellaneous	223.81	
		$6,919.94

Total Earnings.

Advertising	$4.958.81	
Subscription	55.80	
Miscroscope account, halftones and miscellaneous	214.90	
		$5,229.51
Deficit		$1,690.43

Circulation.

To members of The State Medical Society..... 30,479

The deficit of $1,690.43 minus the cost of equipment $1.80 leaves an actual deficit of $1,688.63 which represents the cost to The State Medical Society of circulating 30,479 copies of the Journal, or about 5½c a copy.

ARTHUR J. PATEK.

THE WISCONSIN MEDICAL JOURNAL.

FINANCIAL STATEMENT, MAY 1, 1912, TO OCTOBER 1, 1913. (17 Mo.)

Cash balance May 1, 1912.....	$ 10.60	
Received from The State Medical Society	2,500.00	
Collected from advertising.....	4,199.53	
Collected from subscriptions.....	44.40	
In payment of halftones and excess payments	41.30	
Income Microscope account	78.00	
		$6,873.83

Disbursements

Equipment	$ 1.80	
Printing	3,124.00	
Salaries	1,794.50	
Postage	350.00	
Current expenses	194.22	
Commissions for securing $3,985.50 worth of advertising contracts....	1,068.87	
Robert Currier—Advanced on commissions (Earned $29.31 for securing $129.94 worth of advertising contracts)	50.00	
In payment of halftones and excess payments	42.70	
Truax, Greene & Co., microscope account	78.00	
		$6,704.09
Balance on hand October 1, 1913.....		$ 169.74

Assets.

Equipment	$ 146.63	
Bills Receivable	1,898.66	
Cash on hand.....	169.74	
Robert Currier—Advanced on commissions..... $50.00		
Commissions earned..... 29.31	20.69	
		$2,235.72

Liabilities.

Bills Payable	$ 515.81
Surplus	$1,719.91

SECRETARY: I move that the report be accepted and placed on file and referred to the council.

Motion carried.

PRESIDENT: The next order of business is the report of the Committee on Prevention of Tuberculosis. Dr. Ravenel, I believe, is not present.

PRESIDENT: The next is the report of the Committee on Medical Education.

SECRETARY: I received a letter from Dr. Hayes, stating that he had hoped to be here, but did not expect to be able to meet the appointment. Is any other member of that committee present? Dr. Evans is present.

DR. EDWARD EVANS, La Crosse: I think the reading of that report had better be deferred, Mr. President.

PRESIDENT: We will next hear the report of the Committee on Necrology, Dr. C. H. Stoddard, Chairman.

The report was presented by Dr. C. H. Stoddard, as follows:

REPORT OF COMMITTEES ON NECROLOGY

Dr. A. B. Farnham died on May 6, 1912, at Citronelle, Ala., aged 68 years. Graduate Harvard Medical, 1868.

Dr. J. A. Patterson, Iron River, died on June 27, 1912, of angina pectoris. Born April 16, 1865. Graduate Royal College, Queens University, 1887. Member Ashland County.

Dr. R. W. Hoyt, New Lisbon, died on July 18, 1912, aged 60 years. Graduate Rush Medical College 1875. Member Juneau County.

Dr. Edmund C. Allard, Fond du Lac died on August 1, 1912, aged 54 years. Born in Vermont, graduate Hahnemann Medical College, Chicago, 1893. Member Fond du Lac County.

Dr. Franklin R. Garlock, Racine, died in September, 1912. Born in New York State in 1840. Member Racine County.

Dr. C. W. Oviatt, Oshkosh, died on Oct. 30, 1912, aged 59 years of heart disease. College of Physicians and Surgeons, Chicago, 1887. Member Winnebago Co.

Dr. H. B. Laflin, La Crosse, died on December 21, 1912. Death was due to a stroke of paralysis. Born in New York State in 1834. Graduate Bennett Medical College, Chicago, 1873. Member La Crosse County.

Dr. W. H. Titus, Oshkosh, died on January 7, 1913, of heart disease, age 65 years. Born March 30, 1847, at Constantine, Mich. Graduate Hahnemann Medical College, 1874. Member Winnebago County.

Dr. E. M. Rogers, Hartford, died on December 17, 1912. Born in Bradford County, Pa., January, 1832. Graduate Medical School, University of New York. Member Washington County.

Dr. S. S. Leith, Junction City, died on January 15, 1913, of apoplexy, aged 44 years. Graduate Medical Department of the Northwestern University. Member of Portage County.

Dr. E. J. Smith, Neenah, died on January 21, 1913, of heart disease. Born at Cascade, Wis., July 24, 1856, graduate of the University of Michigan. Member of Winnebago County.

Dr. T. H. McCarthy, Fair Oaks, near Madison, died on

April 1, 1913, of apoplexy, aged 38 years. Graduate Rush Medical College, 1900. Member Dane County.

Dr. P. B. Stewart, Chetek, died on March 5, 1913, aged 43 years. Dr. Stewart graduated at the University of Vermont, College of Medicine in 1898. He was a member of the Barron-Polk-Washburn Sawyer-Burnett County.

Dr. O. T. Hougen, Grand Rapids, died at Chicago on May 13, 1913, following an operation for carcinoma of the stomach, aged 51 years. Born September 22, 1862, at Liberty, Manitowoc County. Graduate Chicago Medical College, 1888. Member Wood County.

Dr. G. M. Goodrich, Clintonville, died on May 5, 1913, of uremia, aged 53 years. Born at Brasher Falls, N. Y., Oct. 17, 1860. Graduate Eclectic Medical Institute, Cincinnati, Ohio, 1883. Member of Waupaca County.

Dr. S. B. Bell, Beloit, died on April 18, 1913, of pernicious anemia, aged 72 years. Born in the State of New York, graduate of the University of Michigan, Department of Medicine in 1864, member of Rock County.

Dr. Gustav Bjorkman, Racine, died on April 28, 1913, aged 58 years. Born in Stockholm, Sweden, 1855. Graduate at the Royal University at Upsala and the Royal Caroline Medical Institution in Stockholm in 1887. Member of Racine County.

Dr. M. A. T. Hoffman, accidentally killed on May 19, 1913, when his automobile was struck by a train. Born in Johnsburg, Wisconsin, October 27, 1878. Graduate of Wisconsin College of Physicians and Surgeons, 1901.

Dr. John Reineking, Hortonville, died on May 27, 1913, of cancer of the stomach. Graduate of Rush Medical College 1887. Member Outagamie County.

Dr. J. F. Lohrs, Highland, suicide on July 24, 1913. Born at Elvers Mills, Dane County.

Dr. George D. Ladd, Milwaukee, died on August 15, 1913. Born at Woodstock, N. Y., Oct. 7, 1850. Graduate Rush Medical College, 1875. President State Medical Society 1890. Member of Milwaukee County.

Dr. George T. Kimball, Kenosha, died on July 10, the result of a stroke of paralysis. Graduate of the University of Pennsylvania 1879. Member of Kenosha County.

Dr. E. W. Bartlett, Milwaukee, died on September 11, 1913, after a prolonged illness. Born in Jericho, Vt., in 1839. Graduate at the University of Vermont 1866. Member Milwaukee County.

Dr. G. Windesheim, Kenosha: Mr. President, in the report of the Committee on Necrology I think the name of Dr. Garlock, of Racine, has been omitted.

Dr. Currens, Two Rivers: I would like to mention, if it is in order, regarding Dr. Samuel Bell, that he was a surgeon in the Army during the Rebellion, and served 3 or 4 years. He was the first president of our State Board of Medical Examiners, and I had the pleasure of being on the Board with him for six years. He was a very efficient member, and was at that time if I remember rightly, also surgeon for both the Northwestern and the Milwaukee roads. I know he was considered one of the responsible men, and I know of cases in Dakota and Minnesota where they sent him out to inspect the injury cases and bring in reports.

Secretary: I think special mention ought to be made of the death of O. T. Haugen, of Grand Rapids, who died as one of our active councilors, and who was exceedingly efficient in the performance of his duties as councilor of that district, and we have all regarded his death as a distinct loss to the council.

Dr. Smith: I did not notice the mention of the death of Dr. C. W. Oviatt in the report, Dr. Oviatt of Oshkosh. I think he died since the last meeting of the Society.

President: We will ask Dr. Stoddard to include those names in his report, Dr. Garlock, Dr. Haugen, Dr. Oviatt and Dr. Bell.

If there is no further comment upon this report, we will next pass to the report of the Delegate to the National Legislative Council, Dr. Dearholt.

Report presented by Dr. H. E. Dearholt, Milwaukee, as follows:

Dr. Dearholt: I have chosen 2 or 3 subjects that I think have particular interest for you at this time. There is really but one piece of national legislation before the country at the present time and that is the consideration of the so-called Owen Bill.

It is interesting in this connection to note the paper presented at the American Medical Association meeting at Minneapolis this year, by Dr. W. C. Rucker. He was apparently speaking for the Public Health Service. It seemed to me that notice was given to the American medical profession that neither the Owen bill, nor any similar bill would ever pass. I think that the people who are best informed down at Washington, are distinctly of the opinion that the United States Public Health Service is going to be about the only National Public Health Board that this country is every going to have.

Of particular interest in Wisconsin was the report of the Wisconsin member of the Legislative Committee, Dr. Evans, from which I will just abstract a few points.

The most significant change in the medical situation in the state of Wisconsin during the past year, is the disbanding of one medical school in Milwaukee, and the reorganization of the other on such a basis as will make a good medical school. At the University of Wisconsin a course leading to the degree of Doctor of Public Health has been instituted. At the Extension Division of the University has been established a Bureau of Public Health Instruction. The health laws of the state are very satisfactory, and the Health Department is doing some very good special work through the agency of the Sanitary Inspector, who devotes all his time going through the state and giving expert advice. The State

Hygienic Laboratory is doing good work. The State Analysis Department is doing good work, and will do much to establish analyzing at smaller hospitals upon a higher plane.

Speaking of the Medical Practice Bill, which was drafted by Mr. Umbreit, and was brought up for discussion at your meeting, it seemed that nothing at the meeting of the Legislative Council attracted more attention. I feel that the discussion of Dr. Harris, of Chicago, on this bill, is very significant, and very important. Dr. Harris, I think, is generally conceded to be one of the strongest men on the executive board of the American Medical Association, and I want to quote two or three sentences from his discussion, notably this, for example: "I claim the license system as contained in the present medical practice acts is a failure, in that it does not accomplish in practical application what these acts were intended for, namely, to protect the people. They do not protect the people."

Or again: "I believe that the restrictive plan or licensing plan is fundamentally wrong sociologically."

Or again: "The point to bear in mind is that medical men and medical schools are only incidents in this whole business; that the people of the community are fundamentally concerned, and until we so frame our legislation as to have that in view, we will be wrong all of the time."

His opinion was not unanimously accepted, although on the whole it seemed to be favorably considered.

Dr. McCormack, for example, protested. I will just quote one sentence or paragraph from his objection:

"It will be unfortunate for it to go out as the sense of this body that we should undo the work which has been done on medical legislation the last generation or the beginning of this generation, based on the educational reform which has been brought about, because fundamentally everything that has been done in raising the standard of medical education has been based on the medical legislation of other states, and to go back to the chaotic condition which obtained 30 years ago, will be distinctly a step back."

This discussion seems to me significant as showing what was frequently brought up here this afternoon, the conception that these medical practice acts are not for the protection of the doctor, as they are so frequently considered by physicians, but for the benefit and protection of the general public.

The other matters considered, which I shall not more than just mention, referred to railway sanitation, an attempt to form a model vital statistics law, expert testimony, conservation of vision. (Applause.)

PRESIDENT: You have heard the report, gentlemen, is there any comment upon it, or any discussion?

SECRETARY: I move that it be accepted and published.

Motion carried unanimously.

PRESIDENT: The next is the report of the Delegate to Council on Medical Education of the A. M. A., Dr. W. H. Washburn. Dr. Washburn is not here.

The next report, the Report of the Delegates to the Annual Meeting of the A. M. A., Dr. J. J. McGovern.

Report presented by Dr. J. J. McGovern, as follows:

The report of the meeting of the House of Delegates of the American Medical Association held at Minneapolis, June 16, 17, and 18, 1913.

The House of Delegates was called to order at 10:00 A. M. by President Dr. Abraham Jacobi of New York. Sixty-six members of the House of Delegates were in attendance. The President in his address made the following suggesions: First—That the number of papers presented to each section should be reduced. Second—That the Secretaries of the sections who give a great deal of time and work to the development of the individual sections should be elected for more than one year. Third—That the President of the American Medical Association should be given larger power and duties and that the President should be a member of the different committees and have a voice in the work of the committees or at least a deciding vote in the committee action. Fourth—That the House of Delegates should meet three days in advance of the meeting of the association to give the members of the House of Delegates an opportunity to take part in the section work. Fifth—He suggested that if the members of the county and state societies were more careful in the selection of their delegates that there would be less complaint about the autocracy of the House of Delewates and the oligarchy of Chicago.

The Presidents first three suggestions were embodied in resolutions introduced by different committees and met with the approval of the House of Delegates. These resolutions will be given more in detail later on in this report. The House of Delegates could not agree on the fourth suggestion so that one was postponed until next year. An effort was made to appoint an investigating committee to sift the criticism back of the fifth suggestion. This effort was killed because of the rather general fear that the investigation would stir up more trouble.

Following the address by the President came the report of the Secretary. The Secretary reported that the membership of the American Medical Association on May 1, 1913, was 37,913 an increase of 3,630 during the past year. The total membership of the component State Societies is 70,538. The House of Delegates and the Secretary found it difficult to apply the rule adopted lest year, namely, that each state should select a definite alternate to represent each delegate in case of his absence; and that a delegate should turn over his card to the alternate in case such delegate was unable to attend. This difficulty arose because some states selected alternates at large, while other states selected alternates without any reference to their delegates. To correct this, a new rule will apply next year. Rule No. 1 was

amended by the addition to the old rule of the following clause at the end of the rule: The Constituent Association shall designate an alternate for each delegate, who may take the place of the delegate when authorized to do so in writing. In the absence of such authority, any alternate who has been duly chosen by the Constituent Association may be seated in place of any delegate who is unable to attend, provided he presents proper official authority from said Association.

The reports of the various standing and special committees were very voluminous. The Board of Trustees adopted a rule limiting the length of the papers to four pages and the discussion to five hundred words. The number of papers to be read before any section was limited to thirty and the retiring Chairman of the section was given authority to approve or disapprove of the publication of any paper. A new section was created under the name of The Section on Gastro-enterology and Proctology and the number of papers that can be read before this section was limited to fifteen.

The Secretaries of the sections were classified. The members of the first class were elected for three years. Those in the second class were elected for two years. And all in the third class were elected for one year. Thereafter all secretaries are to be elected for three years.

The House of Delegates adopted part of the report of the Judicial Council. One important suggestion adopted was the change of name of the classification of the members of the American Medical Association from members, associate members and honorary members to fellows, associate fellows and honorary fellows; and in interpreting these By-Laws, members of the Association at the time of the By-Law shall be construed as fellowship.

No definite law was passed to enlarge the powers and duties of the President but it was suggested to the Chairman of Committees that they would be expected to ask the President to attend any important committee meeting and to confer with him on all vital questions.

The Judicial Council investigated secret fee splitting and the House of Delegates endorsed their resolution that any member of the American Medical Association found guilty of splitting fees or of giving or receiving commissions shall cease to be a member of the American Medical Association.

The report of the council on medical education should receive more than passing attention. The entrance requirements for medical schools have been raised this last year. There are twelve state medical boards which have adopted preliminary requirements in advance of the four year High School course. At a joint meeting of the committees representing the Association of American Medical Colleges and the Council on medical education of the American Medical Association held March 22, 1913, and with the advice of Dr. Kendric C. Babcock, Specialist in Higher Education of the United States Bureau of Education, decided to require one year of college work in physics, chemistry, biology and modern language in addition to the four year High School course. This increase of college requirements has brought about marked reduction in the number of medical schools in America. In 1904, there were 166 medical schools in the United States. From 1907 to 1913, sixty-five medical schools have dropped out or have been consolidated with other medical schools and at the present time there are about 110 medical schools in the United States. Wisconsin is not one of the twelve states that requires high preliminary education. A resolution from the House of Delegates of this society might assist the Wisconsin Board.

The committee on National Department of Health was abolished.

To reduce the number of papers presented at each annual meeting the following resolution was presented by Dr. A. M. Corwin of Illinois:

WHEREAS, The American Medical Association annually attracts to its session a large number of the profession, including its leading scientific exponents; and

WHEREAS, The total membership of this growing Association is so great that but limited opportunity is afforded for the presentation of valuable papers; and

WHEREAS, Many of our ablest thinkers and workers find it increasingly difficult to obtain places on the scientific program; and

WHEREAS, It is evident from a perusal of the published program of the present meeting that many individuals are scheduled for at least two contributions each, either in the same or in separate sections,

RESOLVED, That this House of Delegates, in the interest of greater fairness and of a wider distribution of the privileges and obligations to all, recommends that no member be allowed to appear for the reading of more than one paper at each session. Be it

RECOMMENDED, That Section 13, Chapter XI, of the By-Laws be changed to conform with these resultions.

The Committee recommends that the following be substituted for Chapter XI, Section 13, of the By-Laws:

SEC. 13. No fellow shall present more than one paper at any annual session. The title and abstract of the paper must be submitted to the secretary of the section before which the paper is to be read. No paper shall occupy more than fifteen minutes in the reading.

I suggest that this amendment be adopted by the Wisconsin State Medical Society.

An effort was made to prolong the session but it did not meet with favor.

The House of Delegates adopted a resolution instructing the Board of Trustees: First, To organize a Congress on Tropical Medicine and the Committee is directed to proceed to organize such Congress with the advice of the President and the Board of Trustees of the Association. Second, A permanent monument, to be erected by popular subscription at or near the entrance of the Panama Canal, in commemoration of the triumph of American preventive medicine and sanitary science, and that said monument shall include a bronze statue of Colonel William C. Gorgas, and recognition in some suitable manner of Laveran, Ross, Finley, Reed, Agramonte, Carroll, Lazear and such others as may have made notable contributions to preventive medicine and sanitary science.

The House of Delegates endorsed the Printer's Ink

bill. It has recently become a law in a number of states and the House of Delegates recommended its passage in every state.

The third Annual Report of the Council on Health and Public Instruction was received and approved. The principal mission of the Council is the development of public confidence in the purposes and work of the American Medical Association. Their work is developed along four lines. First, The continuation and extension of the Press Bureau. Second, The organization of a Speakers Bureau. Third, The compilation of a handbook for speakers with other literature necessary for the Speakers Bureau. Fourth, The organization and development of a Bureau of Literature.

A great many special committee reports were received and the work continued. The broad scope of activities of these various committees covers practically everything that can be brought under health and sanitation. The effect of all of this work and accumulated information cannot help but make the American Medical Association a very strong factor in the solution of health problems and a powerful force for good.

Respectfully submitted,

J. J. McGovern, *Delegate.*

President: You have heard this report, what is your pleasure? Is there any discussion?

Dr. Warfield: I move that the report be accepted, filed and published.

Motion seconded.

Dr. Currens: There are several recommendations in the report. Could we do anything with them here to-night? For example, there is the recommendation as to a standard of medical education.

President: If there are any resolutions that any gentleman wishes to introduce as the outcome of this report, we will be glad to receive them.

Dr. McMahon: I suggest that Dr. McGovern draw up a motion or resolution covering the recommendation of this report.

President: We can act upon this report first, and then the resolutions may come later.

All in favor of the motion placing this on file and referring it to the Publication Committee, will please say aye.

Motion carried unanimously.

President: If Dr. McGovern has any resolution, we will hear it at the present time.

Dr. J. J. McGovern: I wish to introduce two resolutions. The first resolution refers to advertising false statements for the purpose of gaining business. In many states this is known as the Printer's Ink Bill, which makes it a crime or felony to publish in any pamphlet, newspaper or periodical a misstatement which is intended to deceive the public and secure business by falsehood and fraud. Part of this law is enforced in Wisconsin with reference to medicine advertising but the principle ought to be applied to advertising in every field of endeavor. This would prevent quacks and dishonest physicians from printing claims that they can cure manifestly incurable conditions.

The second resolution provides that no member of the State Medical Society can appear on the program at any meeting for more than one paper. If we restrict the membership of this society to reading not more than one paper at any meeting a greater number of members can appear on the program at each meeting and thereby extend the interest and benefits of the society work to all its members.

President: Dr. McGovern, does not the Printer's Ink Bill also include this provision, that any newspaper accepting matter for which it is paid as advertising matter, must so state in the ad? Must that advertisement not in some way indicate that it is a paid advertisement and not bona fide reading matter?

Dr. McGovern: I do not know the details of the Bill. I looked over the idea given at the House of Delegates, and I suppose the complete bill will give a great many details that the report does not show.

President: If you will be good enough to introduce the resolution in writing, perhaps you can do that to-morrow or at another session.

Dr. McGovern: I will do that.

The report of the Chairman of Council, Dr. Edward Evans, was presented as follows:

Dr. Edward Evans: There is really no report that the Chairman of Council need give to-night. Any report I might feel it necessary to make will be covered by the reports of our secretary and treasurer, and the various reports of the individual councilors, so it is not necessary to take up your time giving any report.

One thing we might have discussed, and the council present to you, because we had it under discussion in the January meeting, was the fee splitting proposition, which has been taken out of our hands, and our stables cleaned by the State Legislature.

President: The report of councilors is now in order. We will hear from Dr. Wilkinson, of Oconomowoc, Councilor of the 1st District.

DR. M. R. WILKINSON, Oconomowoc: The hour is growing late, and my report will be very brief, simply stating that during the past year we carried on the organization and held district meetings again; had election of officers, and we have arranged for another meeting next year. With regard to the membership, Dodge last year had 30, and this year 31, a gain of one Jefferson Co. has a membership of 28, a gain of 2; Washington 16, the same as last year, and Waukesha 45. Washington gained one, making a net gain of 5. The work is going on and pursuing the even tenor of its way. We expect in the future to increase the work. Good feeling exists all around, and we are looking for good things in the future.

PRESIDENT: Dr. Windesheim is not present, and we will defer this report. Dr. Nye, please report on the 3rd District.

DR. F. T. NYE, Beloit: I will present a very brief report. The Third District comprises Columbia, Marquette, Dane, Sauk, Green and Rock Counties. Membership for 1913:

Columbia-Marquette County 29, a gain of 3.
Dane County 98, a gain of 4.
Green County, 20, a gain of 6.
Sauk County 26, a loss of 4.
Rock County 55, a loss of 5.
Net gain for the Third District is 4.
Meetings during the year.
Columbia County 3, average attendance 10.
Dane County 10, average attendance 30.
Green County 2, average attendance 12.
Rock County 9, average attendance 22.
Sauk County, 0, average attendance 0.

There is a steadily increasing interest in the scientific work throughout the district, a healthy demand for up-to-date methods. This spirit has been augmented at some of the annual, semi-annual, quarterly or monthly meetings with some social form of entertainment, a lunch or smoker.

The able assistance of some outside talent or a few interesting papers, the latter always followed by a thorough discussion upon the topic presented.

PRESIDENT: For the 4th District, Dr. Cunningham, not present.

Dr. Mears, 5th District, not present.

Dr. Abraham will please report for the 6th District.

DR. H. W. ABRAHAM, Appleton: Mr. President, and Gentlemen: The banner county in the 6th District is Winnebago. Last year they had a gain of 8, and it looked as though there was not a chance to get any more, but this year they have a gain of 2, and they have 61 now. The county is thoroughly organized, under the efficient leadership of Dr. Morgenroth, the secretary, who has made steady gains, holding regular meetings, and a fine program for the future. The work is laid out. It shows the work that a good secretary can do.

Outagamie has made no gain this year, a loss of 3, but that is not as bad as it looks.

SECRETARY: Outagamie has 35, the same as last year.

DR. ABRAHAM: It has done better than the report the secretary gave me. That really means a gain, because there are 3 members that are eligible and ready to come in as soon as they are there long enough; they could not enroll this year.

As to Brown and Kewaunee, the report I had from the secretary was the same as last year, unless some more have been sent in. There has been no gain. But they kept an efficient organization. The black sheep is still there, Door County. It is worse this year than ever before. They have practically no organization, and I think the state secretary told me there were only two reported so far.

The report from the 7th District was presented by Dr. Edward Evans, La Crosse, as follows:

Up in the 7th District we are a good deal like the pharisee and his prayer, we are observing all the formalities, and that is about all. I hope that when my term expires next year this house will appoint in my place a good embalmer to keep the 7th District from smelling any worse than it does now. It seems impossible to get any scientific life into any of the county organizations up there, or into the district society. This past year the La Crosse County Society, which is perhaps doing the best work, and should, because it is the largest, arranged for a course of lectures by Professor Bunting of the University, which were exceedingly good, and we could get an attendance of about 12, that is all. It is a fair index of the general scientific character and tone of the 7th District. I presume a good deal of the fault is mine. But I cannot work with those who are not willing to work, and they do not seem to be willing to work up there. They either do not hold the county meetings, or just get together and have nothing worth while. Even in our own county we do not hold county meetings that are worth anything, except those lectures we had during the past year. I was very much amazed this afternoon to find what splendid work is being done in other places. The membership I am not very much interested in. Our secretary can tell us that. I know we had more than we ought to have. We need now, perhaps fewer, certainly better, members.

The report from the 8th District was presented by Dr. T. J. Redelings, Marinette, as follows:

The 8th District comprises Marinette, Oconto and Shawano Counties. These counties have been moving along in the usual way, and Marinette has shown a gain of 4 in its membership, nothwithstanding the removal of 3 physicians from the county. All the eligible men except 3 are members. We hold regular meetings and really have some good times. We get our program out at the beginning of the year. We often have eats at our meetings, and we invite an outsider quite often. Yet it has required eternal vigilance on the part of some of those who are interested in the welfare of the Society to keep up this degree of enthusiasm. I did not visit Shawano County this year, for the simple reason that its secretary reported to me that they were moving along smoothly and maintained their membership, with a small gain of two, and the time required

to reach Shawano from my city is two days, and that seems a good deal to devote to a work that seems to me so comparatively insignificant.

Oconto County regularly lapses into a corpse, I might say. I haven't the word at my command to describe the condition, but it sure is a dead county. I promised the councilor at the January meeting to do what I could do to revive it, and I have made good my promise, which consisted in going to Oconto and making a personal visit and getting a personal pledge from every man, and then bunching them right on the spur of the moment and outlining the plan, even to the hour and the place and the program, before leaving town, and then I followed it up by urging the secretary and the president, and then personally went and attended the meeting, and they really had a meeting that was fairly commendable for Oconto County. The attendance was 13, and there are only 17 in the county. Oconto County shows a gain of 5. That is a pretty good gain over last year, but last year's work was so despicable that the gain really does not show for as much as it appears to.

SECRETARY: Last year 6, and this year 11.

DR. REDELINGS: 11 and 6. There are 2 or 3 others in the county who are available material, but they have not a very sacred regard for their word, because they promised me they were going to pay their dues, and did not do it. That is a failing some men have. I think in a general way the 8th District will score with districts generally in the State, but the work is far from what I would like to see it.

The report from the 10th District was presented by Dr. R. U. Cairns, River Falls, as follows:

DR. R. U. CAIRNS: Barron, Polk, Washburn and Burnett counties from a large Society, which is the north half of my councilor district, and it is by far the best half of my district. This large society is very much established, and has good live meetings every year, and really puts to shame some of the counties with members much better situated for meetings and for society work.

SECRETARY: You omitted to mention a gain of ten, 39 instead of 29.

DR. CAIRNS: I have not the membership with me, but the county of Chippewa I think I can report as a little bit better than last year. Chippewa has always been a society that although it has a good-sized city, enough to support a good live county society, has not had the fellowship which I would like to see among the profession. The Dunn-Pepin County Society is in a flourishing condition, if we except the Pepin end of it. Pepin is a narrow strip of, I think about 5 townships, strung out in a string that has a few scattered physicians, and they are too far from Menomonie which is the one town of Dunn County, to readily get to the meetings, and there are not enough of them to organize for themselves. They pay their dues, but very seldom attend any of the meetings. The meetings in Dunn County are well attended and a good spirit prevails.

SECRETARY: The membership is the same, 18.

DR. CAIRNS: Eau Claire County Society is in a flourishing conditon. I have not been down to visit them, but they have monthly meetings, and I believe, very good meetings.

SECRETARY: A gain of two, 36.

DR. CAIRNS: Pierce County has been rather unfortunate in its secretary for the past year, and is not yet out of the woods, but I believe that before the next meeting we can report Pierce County again in a good condition. The secretary just resigned, and a successor was elected only a week ago, and has not had time to get the work in shape.

SECRETARY: A loss of 5.

DR. CAIRNS: Rusk County is another little strip which is entirely divorced from anything outside, and it has neither a sufficient number of men, nor sufficient spirit to keep up a county society. It was organized a number of years ago into a county society by Dr. Boothby, when he was councilor, and they had one meeting when he was there to organize it, and I think never had another meeting until I went up to reorganize it, and they have not had a meeting since, so far as I can learn from their secretary, and in fact, I have not been able to get any replies from their secretary last year. A number of the men pay their dues, but that is the extent of their organization. The principal difficulty is personal jealousy. The president of the Society will not speak to his fellow practitioner within his own town, although the fellow practitioner is a member of the Society and pays his dues. There are some of the other members who do not speak as they chance to meet on the road. Under these conditions I find it impossible to get anything of a society organization.

The conditions in St. Croix County are fairly good. We have a live secretary there, and while they have been a little delinquent in their meetings, the past year they have had several meetings and reasonably well attended.

PRESIDENT: Dr. Dodd, of the 11th District, is not present.

The report for the 12th District was presented by Dr. H. E. Dearholt, Milwaukee, as follows:

The 12th District is Milwaukee County. Ozaukee County was offered to Sheboygan, as there is no possibility of doing anything with it from this district. The Milwaukee Medical Societies are in flourishing condition. The total membership of the County Society is 316, a gain of 13. Average attendance of meetings is 68, the largest in the history of the Society. The programs are, I think, the best in the history of the Society. They leave little to be desired. Credit is due to the officers of the County Medical Society.

PRESIDENT: You have heard the reports of the councilors, gentlemen; what shall be done with these reports?

DR. CURRENS: I move their adoption.

Motion carried.

PRESIDENT: We will hear the report of Dr. Hall, the treasurer.

The report of the treasurer was presented by Dr. S. S. Hall, Ripon, as follows:

TREASURER'S REPORT.

Milwaukee, Wisconsin, September 30, 1913.

S. S. HALL, TREASURER IN ACCOUNT WITH THE STATE MEDICAL SOCIETY OF WISCONSIN.

Debtor.

Balance on hand April 23, 1912	$4,193.28
Received from Secretary for County Dues	3,802.00
Total	$7,995.28

Creditor.

1912—			
Dec. 16—Wisconsin Medical Journal		$1,500.00	
June 3—Wisconsin Medical Journal		1,000.00	$2,500.00
1912—			
May 22—G. Windesheim, Councilor Expense		$ 14.70	
May 24—J. M. Dodd, Councilor Expense		18.00	
Aug. 1—O. T. Hougen, Councilor Expense		12.36	
1913—			
Jan. 14—J. M. Dodd, Councilor Expense		18.78	
Jan. 15—T. J. Redelings, Councilor Expense		11.35	
Jan. 24—R. U. Cairns, Councilor Expense		60.00	
Feb. 7—University Club, Councilor Lunch		12.75	
Feb. 11—H. W. Abraham, Councilor Expense		27.54	
Aug. 24—G. V. Mears, Councilor Expense		5.04	180.92
1912—			
May 22—S. M. B. Smith, Ginger Tea, Wausau		62.00	
May 22—L. R. Sleyster, Ginger Tea		14.40	
May 22—L. R. Sleyster, Ginger Tea		9.80	
May 23—J. H. White, Expense		74.68	
May 24—C. S. Sheldon, Expense		78.23	
May 24—C. S. Sheldon, Salary, 1912-1913		300.00	
May 25—A. W. Gray, Exp. Prog. Com	$8.44		
Exp. Com. P. P. & L.	1.25	9.69	
May 25—J. P. McMahon, Exp. Com. P. P. & L.		7.75	
June 7—C. H. Ellsworth, Printing Receipts		3.25	
June 15—J. M. Dodd, Telegrams		2.65	
June 15—W. D. Haggard, Expense		48.40	
June 29—Parsons Printing & Stationery Co.		59.50	
Aug. 19—Goodwin, McDermott & Cowan, Stenog.		299.90	970.25
1913—			
Jan. 6—Parsons Printing & Stationery Co.		23.59	
Mch. 3—The Capitol Printing Co.		5.50	
Mch. 3—C. S. Sheldon, Salary 1913-1914		300.00	
May 2—Parsons Printing & Stationery Co.		5.75	
June 11—S. S. Hall, Salary 1913-1914		200.00	
July 18—Parsons Printing & Stationery Co.		2.00	
Aug. 5—Parsons Printing & Stationery Co.		12.60	
Sept. 12—Parsons Printing & Stationery Co.		3.95	
Sept. 20—S. S. Hall, Incidentals		20.00	573.30
Total			$4,224.56
Balance on Hand			3,770.72
Total			$7,995.28

Respectfully submitted,

SIDNEY S. HALL.
Treasurer.

TREASURER'S REPORT.

Milwaukee, Wisconsin, September 30, 1913.

S. S. HALL, TREASURER IN ACCOUNT WITH THE STATE MEDICAL SOCIETY OF WISCONSIN, MEDICAL DEFENSE FUND.

Debtor.

Balance on hand April 23, 1912	$3,102.49
Received from Secretary	1,797.00
Total	$4,899.49

Creditor.

1912—		
July 12—Lines, Spooner, Ellis & Quarles	$ 500.00	
Nov. 4—Lines, Spooner, Ellis & Quarles	1,010.72	
1913—		
Sept. 15—Lines, Spooner, Ellis & Quarles	2,070.53	$3,581.25
Total		$3,581.25
Balance on hand		1,318.24
Total		$4,899.49

Respectfully submitted,

SIDNEY S. HALL,
Treasurer.

PRESIDENT: Gentlemen, you have heard the report of the treasurer, what shall be done with this report?

DR. EVANS: I move that the report be received and referred to the council for auditing.

Motion carried.

PRESIDENT: It is so ordered. The Society is adjourned until 9 o'clock to-morrow morning.

MORNING SESSION, OCTOBER 1st, 1913.

9. A. M.

Meeting called to order by the President.

The minutes of the preceding meeting were read.

PRESIDENT: There is a little unfinished business of yesterday, the first being the report of the Committee on Tuberculosis, Dr. Ravenel, Chairman. Dr. Dearholt tells me this report is now on hand, so it will be read at this time.

The report of the Committee on Tuberculosis was read by the secretary, Dr. C. S. Sheldon, as follows:

REPORT OF THE COMMITTEE ON TUBERCULOSIS OF THE STATE MEDICAL SOCIETY.

SUBMITTED AT THE ANNUAL MEETING, OCTOBER 1-3, 1913.

The Tuberculosis Committee of the State Medical Society has considered carefully the way in which it could do efficient work in the campaign against this disease in the State.

In view of the other agencies which are at work, it seemed to us that the registration of cases was the most important point on which we could work. It was therefore decided that a letter should be drafted to be sent to each member of the Medical Society urging them to co-operate with them in an effort to better the attitude of the medical profession toward the tuberculosis campaign by sending in a report of their cases to the health officers. It was also agreed that the State Board of Health be requested to send a personal letter to each physician in the State and to each health officer calling attention to the effort that is being made to secure better registration; and also that the Secretaries of the County Medical Societies be urged to bring the matter prominently before their Societies.

Following the suggestion of Dr. Evans of La Crosse, it was decided also to arrange, if possible, for a column in the Wisconsin Medical Journal to be given to communications on the tuberculosis question in each issue. Arrangements have been made with Dr. Myers, the editor of the Journal, for the use of this column, and it has already been running for several issues; and Dr. H. E. Dearholt of the Wisconsin Anti-tuberculosis Association has agreed to receive and edit all such communications.

The members of the Committee pledged themselves to send in editorials, and notice is hereby given to all members of the Society or others interested in this work that communications from them will be gladly received and published if they meet with the approval of the editor.

The following is a text of the letter drafted:

"In spite of the many agencies which for some years have been at work throughout the world, consumption and other forms of tuberculosis, continue to demand a toll of human life which is appalling. Conditions are growing better daily along some lines, largely through education of the masses. Philanthropic and governmental agencies have accomplished great things, but much remains to be done.

Our profession has done noble work and has led in the fight in most respects. We are deficient in two things, however, which are delaying progress.

(1) We fail to make early diagnoses.

(2) We fail to report our cases to the Board of Health.

These things are essential to success. Reporting of contagious diseases is the bookkeeping of public health work.

While it may be thought by some physicians that this reporting imposes a burden upon the physicians for which there is no reward, it must be remembered that our position in the community and the respect of the profession have their origin in a willingness to put the work ahead of the reward. It is to our interest to maintain and add to the prestige that has been handed down to us by our ancestors of the medical profession.

Will you not help by sending in a report of your cases of consumption to the State Board of Health?"

Very soon after this meeting of the Tuberculosis Commission the State Board of Health issued a letter on this subject which has been widely circulated.

Respectfully submitted,

MAZYCK P. RAVENEL, *Chairman.*

PRESIDENT: Gentlemen, what shall we do with this report?

DR. SARLES: I move that the report be received and placed on file and referred to the Publication Committee.

Motion carried.

PRESIDENT: The next business is the report of the Committee on Medical Education. Is Dr. E. S. Hayes present, or any member of that committee? The committee is composed of Dr. Hayes, Dr. Edward Evans and Dr. W. H. Washburn.

If there are none of the members of the committee present, the report of the delegate to the Council on Medical Education of the American Medical Association. Dr. Washburn was delegate.

If Dr. Windesheim, and Dr. Cunningham of the 4th District or Dr. Mears are not present with councilor reports, we will now proceed to the reading of the report of the secretary.

The report of the secretary was presented by Dr. C. S. Sheldon, as follows:

SECRETARY'S REPORT FOR 1912.

The Secretary takes pleasure in presenting the report for 1912—the ninth year under our present plan. The last fiscal year closed December 31st, and this portion of the report covers the year ending at that date. The number of component societies was the same as for some years past—53—all of which sent in their annual reports. The total membership for the year was 1685, a gain of 52 over that of 1911, which was 1636. In 1910 it was 1616, and in 1909, 1605—the total gain in three years, 1909-1912, being 183. This is about the rate of yearly increase since the present plan was adopted nine years ago, when we numbered about 1300. This constant and consistent gain indicates clearly that the wisdom of the plan has been endorsed by the profession of the state.

The counties showing the greatest gain over 1911 were Milwaukee 22, Dane 9, Eau Claire 6, Brown-Kewaunee and Marathon each 5. Twenty-eight counties showed a gain, nineteen a loss, and six the same.

The incomplete report of the present year, 1913, to date, is as follows: All the 53 societies have reported, and their reports have been secured with much less difficulty than formerly. The number who have paid the 1913 dues to date is 1706. At the date of the 1912 meeting, it was 1610, a gain of 96.

Of the 53 societies, as compared with the totals of 1912, 22 show a gain, 21 a loss and 10 are the same. The counties making the greatest gains are Sheboygan 12, Barron, etc., 10, Green 6, Oconto 5, Dane and Marinette 4, and Columbia, Douglas, Fond du Lac, Richland, Waukesha and Langlade each 3. Those showing the greatest loss are Lincoln, Green Lake and Pierce each 5, Juneau and Racine each 4, Marathon and Sauk 3. No others have lost more than 2.

THE YEAR'S PROGRESS

Has been unusually satisfactory both for the Society and the medical profession of the state.

Our plan of Medical Defense continues to successfully defend all members of the society threatened with malpractice suits, and to grow more and more in favor with the great majority of the membership. It is an asset of great value, in many ways, to the Society.

The Journal, under the able management of Drs. Myers and McMahon, has more than maintained its high standards. As a medical magazine, going to 1300 doctors in Wisconsin, it is better than ever, while the severest critic can find no fault with its advertising pages.

The Annual Meeting of the Council was held in Milwaukee, Jan. 10th. There were eleven Councilors present.

The Secretary reported the total 1912 membership as 1687, a gain of 51 over that of 1911, only one Councilor District showing a loss.

On motion, it was recommended to the House of Delegates, that Ozaukee County be detached from Milwaukee of the 12th district, and attached to Sheboygan of the 5th, to form the Sheboygan-Ozaukee Medical Society. In the afternoon session, the question of com-

missions, or fee-splitting was thoroughly discussed by the members of the Council and the following resolution was unanimously adopted, and the Secretary was directed to send a copy of it to the various county societies with a recommendation for its adoption: "We unqualifiedly condemn the secret giving or receiving of commissions, or so-called fee-splitting. We believe it is wrong and is injurious in the highest degree to all parties concerned. We would call to the attention of the members of the society and strongly endorse Sec. 3, Art. 6, of the Principles of Medical Ethics of the A. M. A., which reads as follows: (Then follows the article.) On motion a standing Council Committee of 3 was appointed by the Chairman to further consider the question of Commissions, and other Medico-sociological questions, and report to the Council at the time of the State Meeting in October and by mail at other times. Councilors Dearholt, Windesheim and Sheldon were appointed as such committee.

Dr. J. P. McMahon, Managing Editor of the Journal, presented the annual report of the Publication Committee, which on motion was placed on file.

On motion, it was voted to recommend to the House of Delegates, the following amendments to the Rules and Regulations of the Executive Committee on Medical Defense.

3-A—"Defense shall be refused to a member of this society in whose case the charge of a violation of a State Law or Statute is substantiated."

Also, to alter the existing titles of "The Committee on Medical Defense," and that of "The Executive Committee," calling the larger Committee (the Officers of the Society and the Council) "The Council on Medical Defense" and retaining the term "Executive Committee" for the smaller body of three.

Drs. Seaman, Patek and Hall were re-elected as members for one, two and three years respectively of the "executive Committee."

Dr. Hall was elected Treasurer, and Dr. Sheldon, Secretary of the Society for the coming year.

From the usual information blanks sent out to the County Societies, 45 replies have been received. Thirty-five of these societies hold regular meetings more than once a year and do more or less scientific work. Twenty-six societies, or about one-half, meet quarterly or more frequently.

The average attendance in all the societies was over 14. In attendance and scientific work, as well as professional standards, while there seems to be no very marked change from year to year, I believe that we are gradually coming onto firmer and higher ground.

The Third Annual Conference of County Secretaries, held on the Tuesday before the Annual Meeting, was again most satisfactory and helpful. We are glad that Dr. Craig, the Secretary of the A. M. A. can again be with us, and that Dr. Sleyster has again prepared such a fine program for this year.

All things considered, we are fully justified in the belief that we have made progress during the past year, and in the right direction.

As regards the matter of organization alone, there is a distinct and marked improvement. Our 1913 membership will reach 1750, including a vast majority of the best members of the profession. We are gradually gaining in sense of unity and solidarity. By degrees we are learning the usefulness and effectiveness which comes from unity of effort.

We may fondly hope, too, that the outcome of our battle with the fee-splitters will prove another milestone of progress.

The law which has been placed upon the statute books should receive the earnest support of the whole medical profession. All things considered, it seemed the most practicable solution of the problem, and it has added materially to our resources for putting an end to the evil. The effectiveness of the law will depend upon its enforcement. This in turn, will depend upon the attitude of the medical profession of the State. The issue is still ours, and we cannot escape our responsibility. Every component society should plant itself firmly behind this law and call to a strict account all who are disposed to wilfully violate its provisions.

The work of the County Secretaries shows a marked improvement over any previous year. A sense of responsibility—an initiative, and an enthusiasm in the discharge of their duties have been the rule rather than the exception, and abundantly justifies the modest request of one County Secretary who puts on his blank after "Remarks, suggestions, etc.," "Increase County Secretary's Salary."

As to further suggestions, the Secretary would again emphasize the prime importance of a carefully prepared and well-digested program for the whole year for each county society. This duty devolves of course, upon the secretary, and when he rises to the full measure of his opportunity we see the results in well-attended and enthusiastic meetings, even when the membership is small.

Secretary Knauf, in Calumet County, has helped to solve the problem by publishing a well edited quarterly Bulletin of the Society's activities, and his enterprising example is well worthy of emulation.

There is gradually sifting through the consciousness of the membership the fact that quality is altogether more to be desired than quantity. One County Secretary puts on his blank that he is worrying more about how they can get rid of some already in the society, than over the matter of getting in any more new members. I think perhaps he might properly worry over both propositions. He says, "Members don't count! We would rather have 6 live men than 100 dead ones!"—which is very true. One Councilor writes: "In one sense I am sorry we have a loss of 12. It means a loss of a few dollars. In some ways I think it means a gain to the profession. I am pessimistic enough to think that there are a good many more who would better be outside the fold,"—with which general proposition I am thoroughly in accord. The doctrine of brotherly love which, in the beginning, Bro. McCormack preached to us so zealously, in that we should let the bad men into the society and then convert them into good ones and *make* them behave, has severe limitations. To be entirely just to the doctor, however, I suppose he meant to include only the *ethically* bad, and

not the *morally* bad. And I think this distinction should be sharply drawn. It is quite likely that doctors may, with good reason, differ over a point in medical ethics, but there *are* phases of professional conduct about which no right-thinking man can have any doubt. Accordingly, I believe the time has come when we should exercise greater discrimination in the election of new members into our County Societies, carrying as it does, election into the State Society and the A. M. A. It is a virtual endorsement of the moral and professional character of the candidate, and we can no longer afford to place our seal of approbation on members of the profession who are known to be utterly unworthy of it. As regards such men as are already in our ranks, the problem is more difficult, but, even so, there *are* means of getting rid of unworthy members aside from direct charges and conviction.

The Secretary is still of the opinion that no harm and much good would result from an amendment to the Constitution whereby the County Secretaries shall be ex-officio members of the House of Delegates, and we would again so recommend.

Drs. Otto Foerster and H. M. Brown were appointed by the President as Delegates from the Society to the International Medical Congress which met in London last July.

With sincere thanks to all who have aided in the work of the Society the past year this report is respectfully submitted.

CHARLES S. SHELDON.
Secretary.

PRESIDENT: The report of the secretary is voluminous and beautifully done. We all appreciate the work that the secretary is doing for us, and we are grateful to him for the industry he is showing, and the enthusiasm he still continues to display.

DR. SHELDON: In spite of his advancing years, you might say.

DR. WRIGHT: I move that the report of the secretary be accepted and placed on file and referred to the Committee on Publication.

Motion carried.

PRESIDENT: I see that Dr. Windesheim, councilor for the 2nd District is here, and we will now listen to his report.

DR. G. WINDESHEIM, Kenosha: I had to leave last evening before the reports of the councilors were reached, and did not arrive until just lately. I haven't any special written report ready. I have, however, a report of each of the counties in the district. In regard to the whole district I would say that, like the rest of the Society, the fraternal feeling and the interest in scientific matters is increasing. From a membership in the district of from about 98 to 100, there were at the district meetings last year and this year approximately 60, if not more, of the members present. That shows an increase in interest in the work. 5 years ago we had a district meeting with 7 people present; 5 of these were from one town, and the other two were not members of the Society. Now we have 60, with the same membership practically, though there are a few more members. The results are good.

Racine County shows a loss of 5 members. It has a membership now of 32. There was one death, and one removal and only 3 delinquents. Racine County used to hold meetings quarterly. I have been present at several of the meetings when there was not a quorum present. At one meeting there were 4 members. They had then a membership of 22; there is now a membership of 32. They hold monthly meetings since this last year, and the average attendance is 18, greatest attendance 20, least attendance 16—50%. This is good.

SECRETARY: There is a great improvement in Racine. It used to be a wretched field.

DR. WINDESHEIM: Walworth County, membership 29, one death, and 7 removals, still a gain of 1.

SECRETARY: The same, 29 both years.

DR. WINDESHEIM: One death and the removals, and he has it here a gain of one; that is the secretary's report. They have been holding quarterly meetings, but during the last year they have managed to hold a meeting when the roads are good, nearly every month. They do not call them regular meetings, but they have a meeting where the members come together at the residence of one of the doctors, one time here, and another time there, at one town or another, and they are having quite good and instructive meetings, with a large attendance. That is a gain to be appreciated.

SECRETARY: They are doing fine work in Walworth County.

DR. WINDESHEIM: Kenosha County has a membership of 37, a gain of one over last year. We also have two associate members, with a death of one, and one removal, a gain of one. As for the attendance at the meeting, for the last two years, in place of having a local man read the paper, the program committee has secured the services of outside men, mostly from Chicago and Milwaukee, to give a lecture on some special subject they are interested in, and make a specialty. It seems to have increased the attendance. The average attendance is 26 out of a membership of 37, the greatest attendance 28, least 13. That least attendance was at a time when the roads were bad, and the weather bad, and something else was going on. An average attendance of 26 out of a membership of 37 I think is good.

Taking it altogether, I am proud of the work in the 2nd district. One of the men yesterday asked me, "How in the world do you manage to get such attendance at the district meetings and at your county meetings." I have only to say, as I said yesterday, that I do not deserve the credit for it; it is the men who are filling up the programs and making the programs up in such a way that they are of interest to the members. It is in the creating of interest on the part of the members, and especially the social part of the meetings. The meetings are held in connection with a luncheon or something similar, and a little outside of shop

talk, which interests the men, and when they go away they say they have had a good time.

There is only one more thing I could say, and that is, I do not really feel like the old darkey in the South, who was in court when his boy was up for stealing chickens. The Judge said, "I am getting tired of having your boy come up here every few weeks for stealing chickens, can't you take him in hand and manage him a little better, and show him the right way, and keep him out of it?" The old darkey replied, "Yes, sir, Your Honor, yes, sir, I am tired of it myself, the Lord knows I have tried my very best to show him the right way, I have tried and tried to talk to him and show him the right way, but the Lord knows, in spite of everything he manages to get caught." (Laughter.)

SECRETARY: I was glad to hear the doctor say yesterday that he entirely disapproved of this plan of getting outside talent as a rule to furnish the scientific program of the County Society meetings. That should be a means to an end, not an end. The work should be done by the members, to develop the scientific interest and scientific work.

DR. WINDESHEIM: I did say that, and I mean that. The original idea was to develop the talent of the members, but you have to change the nature of the doctors first, because they will not attend the meetings, and if they can come to the meetings and get some information by some outside men it is better than not to have anybody present when a paper is to be read which some man has worked very hard in preparing.

SECRETARY: Have one; but most of the work has got to be done by the members of the Society; but we have got to change the doctors.

DR. THOMAS H. HAY, Stevens Point: I move that the report of Dr. Windesheim be accepted and filed, and that we compliment Dr. Sheldon and Dr. Windesheim on their wonderful field work.

Motion put and carried.

SECRETARY: Are there any other councilors who were not present last night to make their reports. We omitted some, but I think none are here to report at present.

The next business in order is the election of delegates and alternates to the A. M. A., to succeed Dr. J. F. Pember, delegate, and Dr. W. T. Murphy, alternate.

DR. F. T. NYE, Beloit: I make a motion that Dr. Pember succeed himself.

SECRETARY: Are there any other nominations?

DR. CAIRNS: If I understand, he is already a delegate for the coming year, is he not?

DR. SARLES: No, his time has expired. How many times has the doctor been on?

SECRETARY: This is his first year, I think, his first term. Are there any other nominations? I think it is well to have a little competition in regard to this matter. It is a great honor to be sent from the State Society of Wisconsin to the A. M. A., and there might be others who wish to go.

DR. RIORDAN: I wish to place in nomination Dr. H. W. Morgenroth.

SECRETARY: Dr. Morgenroth and Dr. Pember are nominated.

DR. SARLES: I wish to nominate Dr. Dodd, of Ashland.

SECRETARY: Dr. Dodd of Ashland is nominated. Are there further nominations? If not, the members of the house will ballot upon these names, Dr. Dodd of Ashland, Dr. Pember of Janesville, and Dr. Morgenroth of Oshkosh.

DR. CURRENS: I move that the Chair appoint two tellers, or one teller, and proceed with the informal ballot.

Motion carried.

SECRETARY: I will appoint the treasurer and Dr. Windesheim as tellers.

DR. WILKINSON, Oconomowoc. I would like to ask whether any of these men have consented to attend the A. M. A. It is more important to have a man attend, than it is for us to elect one.

SECRETARY: I am sure Dr. Pember will go, also Dr. Dodd and Dr. Morgenroth.

DR. WILKINSON: The man making the nomination really should know if his man will attend if elected.

SECRETARY: We have every assurance that all these men will go, and I would suggest that the man having the second highest number of ballots should be chosen as the alternate.

DR. WARFIELD: Would it not simplify matters to go around and ask each man who he will vote for rather than write it on the board.

SECRETARY: It will take but a little time and we want a secret ballot.

The following announcement was made by the tellers:

DR. WINDESHEIM: There have been 24 votes cast for delegate to the American Medical Association, of which Dr. Dodd received 16, Dr. Pember 5, and Dr. Morgenroth 3.

PRESIDENT: I would announce the election of Dr. Dodd as delegate to the American Medical Association, and Dr. Pember to be elected as alternate.

DR. CURRENS: That was an informal ballot. I suggest that we make it formal.

Motion carried.

PRESIDENT: Dr. Dodd and Dr. Pember are elected delegate and alternate.

PRESIDENT: The next business is the election of councilors in the 5th, 6th and 9th districts, to succeed Dr. Mears of the 5th district, Dr. Abraham of the 6th district, and Dr. Hougen, deceased, of the 9th district. We are ready for nominations, gentlemen, for councilors. Is there any delegate present from the 5th district? If not, will someone else make a nomination from that district?

DR. CONNELL, Fond du Lac: I was talking to Dr. Mears before I left, or he was talking to me, rather, and he stated that he could not act as councilor for the district any more. He also makes this suggestion: that Fond du Lac and Sheboygan and Calumet do not hitch very well, that is, it is hard to get there. His idea was that the district should be changed so that Sheboygan and Calumet and Manitowoc could be in one district, and leave Fond du Lac in the Fox River Valley, and make it better for us, and suggested that there ought to be a councilor for Sheboygan. He suggested a man there, Dr. Zierath, whom he thought would be a good man, and also that the arrangement would make it better for all concerned. It is very inconvenient for us to get down to Sheboygan and over to Manitowoc, on account of the train service.

PRESIDENT: Would you wish to nominate Dr. Zierath?

DR. CONNELL: Yes, I would like to place Dr. Zierath in nomination.

DR. T. J. REDELINGS, Marinette: I second the nomination of Dr. Zierath.

PRESIDENT: Are there any other nominations for this district? If not, we will proceed to the 6th district. Dr. Abraham now represents the 6th district.

The name of Dr. H. W. Abraham, Appleton, was placed in nomination and duly seconded.

PRESIDENT: Are there any further nominations? We might as well vote on all at the same time. There is one further nomination to be made, that of a successor to the late Dr. Hougen, of the 9th district.

DR. THOMAS H. HAY, Stevens point: I am from the 9th district, and I have been casting over in my mind for somebody to nominate from that district, but Dr. Hougen was a very assiduous and enthusiastic worker, and was very well liked in the district, and it will be difficult to find one who can take his place. I would like some suggestion of some kind.

DR. SARLES: I nominate Dr. Thomas H. Hay.

DR. HAY: How many counties are there in the 9th district?

SECRETARY: I have not my book here, but it is a large district, I think there are 7 or 8.

DR. SMITH: We have Lincoln, Marathon, Clark, Wood, Winnebago, Green Lake, Waushara, Adams and Portage counties.

PRESIDENT: Is the nomination of Dr. Hay seconded?

DR. HAY: Really, with becoming modesty and good intent, I think there are very much better men to represent that district. I am unfamiliar with the work, and should have to stay up nights to get enthusiasm and learn the trick.

DR. WILKINSON: We do not want good men for councilors. I second the nomination.

PRESIDENT: You have heard the nomination, gentlemen, and in asmuch as there is but one nomination for each councilor district I think it will be unnecessary to take a ballot if somebody will move these elections be made.

DR. HAY: Do I understand the councilor has to be a politician?

SECRETARY: Certainly.

DR. SEARS: And a good after dinner speaker.

DR. CURRENS: I move that the secretary cast the formal ballot of this house of delegates for the the parties nominated.

DR. SEARS: Motion seconded.

Motion put and carried unanimously.

SECRETARY: I hereby cast the ballot of the Society for Dr. Thomas H. Hay in the 9th district, Dr. W. F. Zierath in the 5th district, and Dr. H. W. Abraham in the 6th district.

PRESIDENT: The next order of business will be the election of committees and delegates.

SECRETARY: Mr. President, the plan adopted last year was for the committee on nominations, which we have to appoint to-day, a committee of 12 to bring in nominations for officers for the coming year, and to suggest nominations for these various committees, the committee on public policy and legislation, tuberculosis committee, medical education committee, necrology, and committee to act with the board of public instruction, etc.

PRESIDENT: Some of those committees are appointed by the council, are they not?

SECRETARY: None of them except the medical defense and the publication committee. With the exception of those two committees it was confided to that committee to make these nominations, which I think is all right. They have plenty of time for consideration of the subject, and usually these committees are continued anyway, unless there is some reason why they should be changed.

DR. WINDESHEIM: I should like to ask whether the rule followed last year of the nominating committee selecting the place for meeting for the next year will also be in order this year.

SECRETARY: I do not think so. I do not think it is in the province of that committee to determine the place of meeting. The house of delegates determines that. They may make a recommendation if they choose, as everybody else can, but they could not decide it.

DR. CURRENS: I move you, to hurry matters along, that this committee be empowered, as it was last year, to suggest for these committees different members for the house of delegates to act on, in the same manner as they did last year, and the Chair appoint now a committee of 12, and that we adjourn.

PRESIDENT: I think the note here in the program, election of committee of 12, is a mistake; I think that should be, appointment of a committee of 12, is not that the proceeding?

DR. CURRENS: The Chair appoints the committee of 12.

SECRETARY: Our plan has been for each councilor district to make a nomination. Each councilor district would have their little meeting and nominate from their own body a member who should represent them on this committee of 12. That has been the usual method.

DR. SARLES: The Chair makes the nomination.

PRESIDENT: I believe that was the rule at one time.

DR. SEARS: I think they were named by the House of Delegates, one from each district.

DR. J. P. MCMAHON, Milwaukee: I am quite sure the way this is done is to have the delegates nominate from the floor a representative from each councilor district.

SECRETARY: That has been our usual custom.

DR. MCMAHON: I move that the house of delegates proceed to nominate a member of the nominating committee from each district.

PRESIDENT: We will proceed then, gentlemen, to follow the established line.

SECRETARY: The article or section which treats of that matter is as follows:

"The house of delegates on the first day of the annual session shall appoint a committee on nominations consisting of ten delegates—it is 12 now—no two of whom shall be from the same councilor district. The committee shall report to the house of delegates one or more names for each office to be filled. No two candidates for president shall be named from the same county. Any person known to have solicited votes for or sought any office within the gift of this Society, shall be ineligible for any office for two years."

The roll was called by the secretary, and the following were placed in nomination:

1st district—Dr. Sears.
2nd district—Dr. Windesheim.
3d district—Dr. Nye.
4th District—Dr. Glasier.
5th district—Dr. Currens.
6th district—Dr. Dougherty.
7th district—Dr. Sarles.
8th district—Dr. Cantwell.
9th district—Dr. Smith.
10th district—Dr. White.
11th district—Dr. Wright.
12th district—Dr. Washburn.

DR. WARFIELD: I move that the nominations be closed and the secretary cast a formal ballot for these nominees.

Motion carried unanimously.

SECRETARY: The secretary hereby casts the ballot for the persons nominated.

DR. CURRENS: There is one question I would like to ask: Is it necessary for the meeting this year to send in a list of recommendations for appointment on the State Medical Board?

PRESIDENT: I must confess that I am not prepared to answer that question, Dr. Currens. Those names are sent in every two years, if this is the year.

SECRETARY: This is the year; they were not sent in last year.

DR. CURRENS: It was neglected once.

SECRETARY: Yes, it was overlooked. I suggest that we attend to that matter at the next meeting.

PRESIDENT: That will be under miscellaneous business; I think that will be reached tomorrow.

Adjournment to 8 o'clock A. M., Oct 2nd, 1913.

Meeting of House of Delegates, Oct. 2nd, 1913, at 8 o'clock A. M.

Roll call.

SECRETARY: The councilors who were not present to report at our first meeting, were Dr. Dodd, Dr. Cunningham and Dr. Mears. Dr. Dodd is here to report on the 11th District.

DR. DODD: The number of members in the 11th councilor district I presume has been given you by our secretary. I have not received reports from all the counties. The conditions are much similar to what they were a year ago. We have in our immediate vicinity a number of new doctors who are not yet identified with the Society. There have been some removals. Some whose cases have been taken by others, and as soon as the activity in the fall work starts in I presume we will be able to get these men in to act in the Association with us. The professional spirit remains about the same. We are more or less isolated up there, and it is somewhat difficult to get meetings, difficult to get the members to attend, and that is a condition which is always present up there. I presume it is due largely to the long distances the men have to travel, and the amount of time it takes away from their business in order to attend these meetings. There is nothing special I desire to bring to your attention at this time.

SECRETARY: Mr. President, there were one or two matters that I did not call to the attention of the Society at the first meeting by reason of lack of time. Here is a pronunciamento from Dodge County.

To the State Medical Society of Wisconsin:

First: WHEREAS, Chronic Alcoholism is primarily a medical question and the present practice is to view it from its social aspect alone;

Second: WHEREAS, The proper treatment of this condition is rewarded by a large percentage of recovery;

Third: WHEREAS, Institutional treatment is recognized as the most efficient method of handling these conditions;

Fourth: WHEREAS, The treatment in a state institution for the insane is decidedly beneficial and in every respect modern and scientific yet the patient is not taken to an insane hospital for treatment until he has committed some offence which has brought him to the attention of the policy;

Fifth: WHEREAS, the commitment as "insane" of a chronic alcoholic is not justifiable in the vast majority of cases and when such commitment does take place the community alone receives the consideration, in other words, the individual is permitted at large just so long as he does not upset the order of society;

Sixth: WHEREAS, Under our present system, treatment is much delayed because of the unjust public stigma that attaches itself to one committed as an insane individual, and as a result, friends and relatives hesitate in bringing about the commitment of the patient.

THEREFORE BE IT RESOLVED, By the Dodge County Medical Society in session that chronic alcoholics should be treated under the supervision and direction of the state; but that means be provided for such treatment by the state separate from and independent of the present state penal and charitable institutions.

FURTHER RESOLVED, That these resolutions be forwarded to the State Medical Society at its next session with the urgent request that the state organization actively interest itself in inducing the Legislature of our state to make provisons for the care and treatment of chronic alcoholics by scientific means but independent of the present charitable or penal institutions.

F. D. BROOKS,
W. E. HALLOCK,
A. A. HOYER,
Committee

DR. EVANS: I move you it be referred to the Committee on Public Policy and Legislation.

Motion carried.

SECRATARY: Also a resolution from the American Medical Association relating to Cancer Research.

Resolution read by the secretary.

PRESIDENT: There will be a communication sent to the House, if it has not already been sent from the meeting yesterday, with reference to the appointment of a cancer commission. If such is appointed in the House of Delegates then it will be proper to refer it to that committee.

SECRETARY: Mr. President, has this committee for cancer research been appointed yet?

PRESIDENT: The House has not voted upon such committee. It was merely a recommendation from the meeting.

SECRETARY: I would state that at the meeting of the State Medical Society yesterday a motion was adopted that a committee of five be appointed from members of the State Society, for the purpose of studying the subject of cancer, and also that a committee of five was recommended to be appointed by this body, to investigate the status of fee-splitting in Wisconsin, and report the results of their investigation at the next meeting of the Society.

PRESIDENT: Gentlemen, you have heard the communications that have been submitted—what is your pleasure with regard to them?

DR. MCMAHON: I move you that the retiring president be empowered to appoint two committees of five each who will undertake the work of the two subjects enumerated in the two separate resolutions passed yesterday afternoon.

Motion seconded by Dr. Hay.

PRESIDENT: It has been moved and seconded that two committees be appointed of five each—one to study the subject of cancer, the other the subject of fee-splitting, and report next year.

Motion carried.

DR. MCMAHON: Along the same line, Dr. Crile, in his address at Minneapolis advocated the appointment of a commission by the National Association, and by the respective state associations to investigate the subject of goiter. I wonder whether or not that would be a proper matter to consider at this time since we are on the subject of appointing investigation commissions.

PRESIDENT: It seems to me this House and Society and its committees are going to be very full of work next year, and that it might be well not to complicate matters and multiply commissions.

DR. MCMAHON: I will leave it to the judgment of the officers.

PRESIDENT: What do the gentlemen think with reference to that suggestion?

DR. EVANS, La Crosse: I think probably it would be a good thing to let it wait a little. If ever the Public Health Department of the University gets going, it would be a proper place to have such questions investigated. It seems to me it would be a good medium to at least get help on the problem.

PRESIDENT: I think it would be more of a matter that requires time and investigation. It would be more a matter of one individual; somebody who wanted to take it upon himself to investigate the status of goiter in this state, rather than to take it up at the present time. There is some other regular business.

SECRETARY: Is that satisfactory?

DR. MCMAHON: I am not pushing the matter at all. I believe the question of goiter in Wisconsin is just as important as cancer, and I believe there are more cases of goiter in Wisconsin than there are of cancer. I am perfectly willing to leave it to the judgment of the gentlemen present.

SECRETARY: I think this year is the year in which we are expected to nominate a committee of ten from which to select one or two, I don't know which, members of the Board of Medical Examiners, and it would be proper for this body at this time, I think, to make that selection. Of course the President can make them himself, or we can appoint a committee to report at a future meeting of the House of Delegates. I think they ought to be appointed, however, with great care and discrimination.

PRESIDENT: I would prefer to leave it to a committee, I think.

DR. REDELINGS: Mr. President, I move you that the members of that committee be selected from such members of this Society as hold a Liberal Arts Degree, and the Degree of Doctor of Medicine. I make that motion because I do not hold such a degree, and there is no selfishness in it as far as I am concerned. I believe that a higher standard is needed on that board, and among the men who are feeling their way up in that avenue, and it is for that reason that I make this motion at this time.

PRESIDENT: Is there any further discussion upon this subject of the method of appointment? I think it would be far better to leave such appointment to a committee, than to put the responsibility upon one individual.

DR. RIORDAN: I move you that the Chair appoint a committee of five to send in the names of the most available members; the best men in the state for such work. I think that many times the degree of Liberal Arts does not necessarily qualify a man to act on such board, any more than some inferior education. Sometimes those men are not always just what they should be either, though generally speaking, it is all right. But they might keep out of the State Board of Health some men that would be very solid men.

SECRETARY: I think Dr. Riordan misapprehended Dr. Redelings' motion or suggestion. It was not that this Board should be composed of Art Degree men, but that the committee were to select the men, simply the committee appointed by this body to select.

PRESIDENT: No, that is just what Dr. Redelings meant; that the committee select ten men who had the Liberal Arts Degree, so that the appointment be made from one of those.

DR. REDELINGS: That was my motion.

DR. ABRAHAMS: Mr. President, I second Dr. Redelings' motion.

DR. REDELINGS: I do not wish to be understood as having any feeling such as the speaker just intimated. My idea is this, that the man who has a broad education, who is in sympathy with educational progress is in better shape to formulate questions for an examination, and to discriminate on that Board, and to help us in our way upward along the lines of better equipment of the young man who comes into the field, than the young man who has an indifferent preparation; and we certainly have in this state a lot of men who are very deficient in their preliminary education.

DR. DEARHOLT: I would like to suggest an amendment to that; not formally, particularly, but a suggestion: that it is not wise as a rule, to send a committee into work of this sort circumscribed too much. I would say, let that be the desire of this committee.

DR. REDELINGS: I accept that amendment, that such men be given the preference.

SECRETARY: I believe with Dr. Riordan that there are more men without the degree, and that there should not be that line drawn.

DR. REDELINGS: With the consent of the second I accept the modification.

PRESIDENT: It has been moved and seconded then that it be the sense of this meeting that if possible, the selection of the members for the State Board of Medical Examiners be made from men who have degrees both in medicine and in arts. All in favor of that motion please say "aye". The further motion of Dr. Riordan that a further committee of five be nominated to appoint ten men whose names shall be submitted.

PRESIDENT: I will ask if a committee of five would not be too many.

SECRETARY: Three would be enough.

DR. RIORDAN: That will be acceptable to me.

DR. ABRAHAMS: I would like to amend that motion that a committee of two, consisting of the President and Secretary, be a committee. I think the President and Secretary know the men of the state and their qualifications probably better than any two men that we could select at a moment's notice.

PRESIDENT: May I suggest, if that motion should have support, that you would add a third to that committee, including making the president and secretary members of that committee, and a third member.

DR. MCMAHON: I would amend the motion that a committee of three be appointed, two of whom shall be the president and secretary, to select these nominees.

DR. ABRAHAMS: I second the amendment.

PRESIDENT: It has been moved and seconded that a committee of three, of which the president and secretary be members, be appointed to select ten names for presentation to the Governor. Any further discussion upon this motion?

DR. ABRAHAMS: These names ought to be presented to the Governor at least before there is another meeting, and very soon.

SECRETARY: I will send in the list as soon as we get home.

PRESIDENT: Do those nominations have to be sent to this body? They need not be confirmed, do they?

SECRETARY: I think they should be confirmed by this body. That can be done in the morning just as well.

Another point was the detachment of Ozaukee County from Milwaukee. It has not seemed to work some way or other; and its union with Sheboygan. I was talking to Dr. Scott yesterday, and he said that they are on the same line of railroad and he thought he could stir up quite an interest there in Ozaukee County, because he said he felt sort of neglected; he did not seem to understand that he could join Milwaukee, but he said he felt that there were quite a number of them joined the Sheboygan. The council at its last meeting took action in this matter and recommended to the House of Delegates that this change be made; that Ozaukee County be detached from the 12th, and added to Sheboygan. I move that this recommendation of the council be adopted.

Motion seconded.

PRESIDENT: It has been moved and seconded that the recommendation of the council with reference to the rearrangement in county affiliations be adopted.

Motion carried.

PRESIDENT: Dr. Cunningham, your report from the 4th District is in order.

DR. CUNNINGHAM: I do not believe any special report is necessary. I think the secretary's resumé probably covers that pretty well. Everything seems

to be lovely down in our part of the state, and doing well.

DR. CONNELL: I think Fond du Lac County should be separated from Sheboygan County, and for that district it would be more convenient if we were attached to either Dodge County, or to Outagamie County. They are right on the same line of railroad, and it is much more convenient. My proposition is to detach Fond du Lac from Sheboygan.

SECRETARY: The 5th District is composed of Calumet, Fond du Lac, Manitowoc and Sheboygan. Of course if Fond du Lac were detached it would leave a pretty small district there, only Manitowoc and Sheboygan, besides the small county of Calumet.

DR. CONNELL: That is all they practically have anyway. We are in such a place that we cannot go there unless we go around by Milwaukee.

SECRETARY: Your proposal was to add Fond du Lac?

DR. CONNELL: Either to Outagamie County or Dodge.

SECRETARY: I don't suppose there is any vital objection to making that change. If it is felt desirable by the membership generally. I think the councilor of the 6th District might have something to say about that.

DR. ABRAHAM: As a councilor district it is a pretty good-sized district as it is, but I am sure I would be very glad to have that county attached if they would detach Door County.

SECRETARY: With regard to Door County I think it is a proper thing to come up at this time too, as to the disposal of Door County. I have written my head off to the supposed secretary of that county, and two or three times the president has done the same, and the councilor of that district has done the same, and so far as known not one single reply has been received from any man. Dr. Abrahams, have you got any word at all from any of them?

DR. ABRAHAM: No. I don't want to be relieved. I don't feel that I want to make that request, to be relieved of a bad egg that way. I would rather go in and see what I can do for awhile, but the councilor would like to have full authority to go in there and appoint any officers temporarily to make a reorganization entirely. After they get organized of course they can keep it going.

SECRETARY: There are two men who have not been active members lately, Dr. Proctor and Dr. Egeland. I wrote them and we have got their fees, Proctor and Egeland's; but the men who have recently been members none of them paid any attention to it. Sturgeon Bay is a good town, and there are some good men up there who I think ought to be in the Society. There are a dozen physicians in the immediate vicinity. I don't know that this House needs to take action in regard to authorizing the councilor of that district to go in under the circumstances to do a little extra constitutional work.

DR. ABRAHAM: If I can be backed up by no objections it is all right.

SECRETARY: I would move that Dr. Abraham, the councilor of the 6th District, be authorized to go into that district and organize a medical society.

DR. HAY: I second the motion.

Motion carried.

SECRETARY: If Dr. Connell is satisfied that the people up in his county generally desire this change, and Dr. Abraham says he has no objection to accepting Fond du Lac as one of his wards, why, I move it be done.

DR. CONNELL: Possibly the resolution will be here in a short time.

DR. ABRAHAM: I think it would be better to say the councilor of the district.

PRESIDENT: We will defer action until later.

SECRETARY: The most important, aside from the acceptance of the report of the Nominating Committee—I suppose the most important business of the meeting would be the determination of the time and place of our next meeting.

DR. ABRAHAM: Mr. President, I would present the claim of Oshkosh for the next meeting. The men are a very live body. They have a very active County Association, and a good large membership. Oshkosh has taken care of the State Society before several times, and with great success, and I think can do it better now than at any other time. And I would like to put before the House the question of selecting Oshkosh as the next place of meeting, and I would like to hear from Dr. Morgenroth, who personally represents Oshkosh, and is the secretary of the Society.

DR. MORGENROTH: Mr. President, the members of the Oshkosh or Winnebago County Medical Society wish me to extend an invitation to the State

Medical Society to have their meeting there next year. I also have a communication from the Mayor, which I desire to read:

"*Wisconsin State Medical Society assembled in convention at Milwaukee, Wis.*

HONORABLE DELEGATES:

Kindly permit me in behalf of the citizens of the City of Oshkosh to extend to you a cordial invitation to hold your next annual convention in our city. The citizens of the City of Oshkosh will feel highly honored if you decide to select our city as your next meeting place, and while you remain with us we will endeavor to make your visit one of pleasure as well as business.

Trusting your Society will find its way to confer this honor upon our city, I remain,

Yours sincerely,

JOHN MULVEY, *Mayor.*

Now the question of accommodations usually comes up in attending these meetings, and we have canvassed that question thoroughly, and we are sure that the accommodations will be entirely ample in every way. We are at present erecting a new Elks Building, which will be ready by the first of the year, and it will be an ideal place to hold a meeting. It is very similar to this building here; not quite as large. We also have other halls that will be good places. In regard to accommodations so far as eating and drinking is concerned, of course you know we have plenty of that. As to the sleeping accommodations, which usually is the greatest difficulty, I will go on record now that I will be responsible as the secretary of the Winnebago County Medical Society, and any man who has not a bed to sleep in at 6 o'clock in the evening, if he will report to the secretary of the Winnebago County Medical Society, I will today go as a guaranty that I will secure proper and good sleeping quarters.

DR. MCMAHON: Two different matters have been left in my hands by men who were called out of town. Dr. Nye was called out of town last night, and he asked me to nominate Janesville. I simply wanted to nominate Janesville at the request of Dr. Nye.

SECRETARY: This is not intended in any way to express a preference, but I came up on the train with Dr. Van Kirk, of the Rock County Medical Society, and I asked him in regard to accommodations. He said that the Beloit people would probably use their machines and go home every night, but they had several large halls there, and they proposed to make it largely a sort of social affair, and he said their plan was in carrying out that idea, to entertain a great many of the members at their homes. He thought there would be no trouble in regard to that matter of accommodation. I thought in justice to Janesville I would simply tell you what he said.

DR. CONNELL: Mr. President, I would like to endorse what Dr. Morgenroth has said. As far as the accommodations are concerned we had an idea that we could accommodate the State Fair, and as long as we could do that there ought to be no question about being able to accommodate the State Medical Society. Oshkosh is beautifully situated, and a very appropriate place, and they have not had the meeting there for a long time, and we are in direct communication with all the railroads, and can get there from all parts of the state. There are trains running every half hour between Oshkosh and Fond du Lac, and from Oshkosh to Appleton, and there is no question about the accommodations. They are almost equal to Milwaukee, probably not as good, but they are good enough for the majority. It is only a half hour's ride from Fond du Lac. There are ample accommodations and excellent railroad facilities for getting in and out from all over the state.

PRESIDENT: Any further discussion, gentlemen, upon this matter?

SECRETARY: I suggest we shorten up our discussion as much as possible, because it is a quarter past nine now, and we have got a full day.

DR. CUNNINGHAM: I move we have our next meeting at Janesville.

DR. CANTWELL: I move that we have the next meeting at Oshkosh.

Motion seconded and carried.

SECRETARY: Has any member of the House any suggestions that the date of the meeting be put back in the summer, or shall we still have it in October?

(A Number of Delegates): October.

SECRETARY: The President was not present when we first convened. Perhaps we ought to read the minutes of the last meeting.

(Minutes of last meeting read.)

DR. JERMAIN: Mr. President, I would like to read a resolution:

"WHEREAS, The council of your medical education and medical educators in the United States are agreed that the most desirable preliminary requirement to a medical education is two years of college work, including the physics, chemistry, biology and a foreign language, this

college course to succeed upon graduation from an accredited high school court, and

WHEREAS, Many states, including our neighboring states of Minnesota, North and South Dakota and Iowa, have already, by law or ruling of the State Board of Examiners adopted such preliminary requirements, therefire be it

RESOLVED, By the House of Delegates representing the Medical Society of the State of Wisconsin, that steps be formally taken either by enactment of the proper law, or by ruling of the Board of Examiners, if such be within their powers, to adopt the above preliminary requirements for this state."

I move the adoption of this resolution.

SECRETARY: I second the resolution.

DR. ABRAHAM: I wish to say in reference to this resolution that it would be a very proper thing to endorse this resolution by the Society. That is all that we can do. The State Board cannot make any such ruling according to the law here, but they would like to be backed up by such a body as this, and everybody in fact, so that at the next meeting of the legislature we can in some way or other pass such a law, either of one or two years; preferably two years. If we cannot get two, we will be glad to get one.

PRESIDENT: You have heard the resolution, and it has been seconded, including the resolution that it be submitted to the Committee on Medical Education.

CHAIRMAN: Yes.

Resolution adopted unanimously.

PRESIDENT: There are several matters that I wish to put before you. There is a question here that I want to have come up for discussion. One is an amendment to a paragraph of the original report of the Committee on Medical Defense. (Reading same.)

Amendment 3. Amend paragraph 1 now reading: "The Committee on Medical Defense * * * * shall select * * * * an Executive Council of three," etc., to read: "The Council on Medical Defense * * * * shall select * * * * an Executive Committee of three," etc.

It is understood that the adoption of this amendment shall carry with it the power to substitute the titles "The Council on Medical Defense" and "The Executive Committee" respectively, as the proper designation of these bodies wherever they appear in these proceedings, and that these amended designations shall constitute the titles of these bodies in all future proceedings as well.

I would suggest that the Council on Medical Defense be formally given the power to formulate rules which, as exigencies arise, may assist it in the proper conduct of its affairs. I therefore ask the adoption of the following paragraph:

"The Council on Medical Defense shall establish rules respecting the conduct of Medical Defense by the Society."

DR. ABRAHAM: I move the adoption of these two amendments.

Motion seconded and carried.

PRESIDENT: There is one thing more on the subject of medical defense. I would like to ask the question, "When is a delinquent a delinquent?" According to our rules a man who is delinquent in the payment of his dues is not eligible to medical defense. The dues are due on the 1st of January. If a man pays his dues on the 20th of August, and on the 15th of August, a few days before that, he has been sued, is he entitled to a defense? I claim he is not, and I so ruled in a case recently, a man who, by the way, left the city, although he did not resign from membership.

I would like that question discussed because it is of importance. If a man is delinquent a day or two, or a month or two, or six months, when does he become delinquent, and when does he become non-eligible to defense? We have to draw the line somewhere, and I think the cases are going to come up, because some secretaries are finding it pretty hard work in collecting dues.

DR. WINDESHEIM: As I understand it, and according to our by-laws the rule is that the man is a delinquent until he has paid his dues.

SECRETARY: Yes, he is a delinquent until he has paid his dues.

DR. WINDESHEIM: He is not a member of the Society until his dues are paid. However, our constitution or by-laws allow the secretary of the county society until some time between the 1st and the 10th of April to send in the dues. So if a man is delinquent between the 1st of January and the 10th of April, according to the constitution you cannot call him a delinquent. After that at any time you can call him a delinquent.

SECRETARY: April 15th. The article to which the doctor refers is Section 14, Chapter 9.

DR. WINDESHEIM: The members whose money is not in by that time, are delinquent, but before that time, if they have been members in good standing, the year before, I cannot see how you can rule them out until after the 15th of April.

PRESIDENT: I think that has been changed.

That was when we had our dues payable the 1st of April.

DR. CANTWELL: We pay our dues in March.

DR. WINDESHEIM: As to the question which was raised that if a man has become liable to a malpractice suit, on the 15th of August, and sends in his money on the 20th, possibly because he wants to be defended, I think that the Committee on Defense ought to use their own discretion in that matter. If a man has been a member in good standing for many years, and simply through some neglect, or for some valid reason or other has not paid his dues previously, whether he is liable to a malpractice suit or not, the Committee should decide whether he is entitled to defense or not. Men who will never pay their dues until they are driven to it, coaxed and driven to it the very last day, just before the meeting of the State Society, do not deserve the benefit of medical defense.

PRESIDENT: Where the Committee does not of course know the status of individuals in the Society I believe this question came up once and came up again—I believe there ought to be some sort of instructions given that committee whereby it knows who shall fall under that law.

DR. HAY: It seems to me the matter is easily settled. It is not a question of the individual member. It is a question of the standing of the Society. If the Society is not delinquent, then the member is not delinquent, if the Society certifies to his membership in good standing. It is easily disposed of in a very few seconds, it seems to me. We do not need any talk about it. It is plainly evident from the by-law that Dr. Sheldon read that we deal with the Society, not with the individual in regard to his membership, and he either stands or falls with the standing of his society and their certification that he is in good standing and membership.

DR. DEARHOLT: Wouldn't it be a good idea to have it understood that that is one of the rules that the council is empowered to make, and then it is understood that such rules as the council makes are not inconsistent with the constitution and by-laws.

PRESIDENT: That rule has already been made by the Society. No case of malpractice that falls within the period of delinquency may be defended.

DR. RIORDAN: Suppose that you accept a delinquent's dues August 1st, and he had a malpractice suit in July, we will say, the 29th, for instance, would we be liable if we accepted the dues?

DR. HAY: We would be liable to defend him for the next suit which was brought against him, but not for the one previously brought.

DR. CUNNINGHAM: I make a motion that we make that time of delinquency occur on the 15th of April.

Motion seconded.

DR. REDELINGS: I think that we should be mindful of the fact that our year begins the 1st of January now, and not the 1st of April as it did when those bills were gotten up. In the concrete case which the President submitted to you it is not a question of delinquency simply. It is a question of leaving the state. The man has gone to another state. His relations were severed absolutely so far as his ties with the county society were concerned, because he got a personal letter from the councilor, and a personal letter from the secretary recommending him to the cordial reception of the community into which he chose to go.

PRESIDENT: Although he had never resigned from his county directly, so I was told.

DR. REDELINGS: He simply announced that he was leaving.

SECRETARY: He did not ask for a letter of transfer at all?

DR. REDELINGS: I could not answer that question so far as the county secretary is concerned, but my letter was delivered. I proposed or offered it to him, and he was very glad to receive it. What the relationship was with the county secretary, I could not answer, but it is possible you have had communications from Dr. Bird.

SECRETARY: That he had not been transferred.

DR. RIORDAN: It would be difficult to make a delinquent on the date that the dues were payable, because most of us would be delinquent in that case, even though the constitution does call for it. You will have to have time for the secretary to notify or send statements to the members, and I think we ought to place it no later than about the 15th of April, which will give them say 30 to 90 days.

PRESIDENT: I think we want to make as liberal a construction of the privilege as we can, but we want to make some definite construction of it.

DR. HAY: You want to set some date. If it is the 1st of January that you collect your dues, I would give the secretaries till the 15th of January to get those dues into the State Society, and by so-

doing you will simplify matters and just as long as you dilly-dally you can dilly-dally five months or a year, and they will hold off.

PRESIDENT: Why wouldn't it be best for the secretary of the Society either by motion or by suggestion to give a second notice on the 15th of the month, and give a 30 days' notice during which time dues may be paid; 15 days more after the second notice, and if dues are not paid on the 1st of the month following, anything that may have transpired in that month would not be defended.

SECRETARY: It has not been our practice to hold the societies as societies in good standing, but we have had to deal with the individuals. A member whose money has not been paid to the county secretary by a certain date must be declared delinquent, if action has been begun before this date. But we have to make a ruling which will be absolute, that if the money has not been paid, whether we make it the 15th of February or the 15th of April, to the secretary of the County Society, that man is not in good standing and cannot be defended. But it seems to me that adequate and repeated notices should be given the membership that such is the fact. It should be printed in the Journal, and notice should be given in other ways so that the membership shall know definitely that prompt payment of dues is necessary for medical defense.

DR. CUNNINGHAM: I would like to ask what percentage has been paid by the 1st of January. I will venture to say there has not been one per cent.

SECRETARY: My point is that the secretary should collect the dues in December. He should make it an object before the beginning of the year to have the dues paid in. He can just as well collect them in December as in July. They have got to be paid some time or other. The calendar year, which is our fiscal year, begins with the 1st of January, and the dues should be paid in before that date. The benefits of membership begin then, and accordingly the dues should be paid then.

DR. SARLES: I would amend this motion to the effect that Febuary 15th would be the limit day. We have been collecting the 1st of April. If we have printed slips that can be sent out by the secretaries, and make the 15th of February after the second notice on January 15th, you will do just as well as though you make it the 15th of April. The suggestion was made that a second notice be given on the 15th of January and given 30 days. I will amend that to the 1st of February then.

DR. CANTWELL: Our people who live in the woods only have four meetings a year, and it has been customary for a long time for the dues to be paid at the first meeting, which is held in March, and that is one reason why we succeed in having a good meeting in March; the doctors come there to pay their dues. I think that you could extend it to March also and help us fellows in the woods; we don't have any meeting in January. It could be paid by April, but I kind of like to have them come to the meetings. In the country, and in poor roads, we are pretty doubtful of having a meeting; we never had a meeting in December; we have always paid them in March.

DR. RIORDAN: The idea was to have some definite date on which we could call a delinquent a delinquent. That is all there is to it. If the payment of dues is delayed till the 15th of April it is not going to break the State Society. We will give these societies, as the doctor suggests, a better opportunity to pay, and I have had experience in that line. I think it is a good idea—so what difference does it make. All business houses will give you 90 days if you wish it. It won't break the State Society if we set it on the 15th of April.

DR. CONNELL: If you fix it the 15th of April, the 15th of March or the 15th of January, that is immaterial, but we are insured for one year from the 15th. This is a business proposition; there should be no sympathy whatever, and the man that lives in the woods usually has a good strong check book, and he can send his check in. The idea is to be carrying those men three years or three months. He may drop out in those three months, and he has a lawsuit on his hands, and then he comes in, and are you going to defend him? Not at all. You have no business to take care of that man for three months for nothing. Let him pay the 1st of January, and then he is protected for another year till the 1st of January. This way of carrying business along for three months on a credit system don't pay.

DR. CANTWELL: We don't ask for any sympathy. This money is sent to the secretary of the State Medical Society in April, I understand.

SECRETARY: It is due in January, but you are given until April. After that your name is cut,

but you are expected to send it in the 1st of January.

DR. CANTWELL: If we don't send it in until the 1st of April I don't see why we could not have up till that time to collect the money from the different members.

PRESIDENT: According to this motion the money is due the 1st of February.

DR. SARLES: That is according to the amendment.

DR. CURRENS: I don't know of any reason why we should carry the man three months for nothing. If we want it in April start your insurance in April. I don't believe in this dilly-dallying along and carrying it for three months, because there are all kinds of chances for trouble. It should be paid for at the time, because I don't know of a single indemnity insurance company of any kind but what when the year is up they are after their money.

DR. RIORDAN: Some societies, ours, I think, elected their secretary in December, and the new secretary taking hold may not be so well informed on the duties of the secretaryship, and it may be a little bit difficult in the change, and his time is not always his own, and a month or two given him, we will say up to the first of the month, will constitute a help to him. It was to me, I know. I was just appointed last December, and it would not have been very easy for me to have gotten out the statement which the other man might have gotten out, and there would have been some misunderstanding. I, therefore, feel that 90 days would not do any harm. The main idea is that we set a definite date at which we can call a man delinquent.

PRESIDENT: There is a motion before the House and an amendment to the motion.

A MEMBER: I second the amendment to make it the 1st of February.

DR. RIORDAN: The motion was that the 15th of April be set as the latest day at which the dues be paid.

DR. SARLES: The amendment was that 30 days be given. I move for a vote on the amendment.

PRESIDENT: The vote on the amendment is in order. All those in favor of Dr. Sarles' amendment that a man be not considered delinquent until 30 days have elapsed after January 1st, which is the time payable for dues, which will bring it to the 1st of February, say "aye".

Motion carried.

SECRETARY: The 1st of February, then, is the time. I will ask the secretaries, all those here, to notify their secretaries, and make it very emphatic.

PRESIDENT: All those in favor of the original motion as amended will please say "aye".

Motion carried.

DR. HAY: Before we pass to the next business wouldn't it be well to have a reprint of the by-laws, and have them brought up to date so that we know just where we stand?

DR. ABRAHAM: In discussion I think we are pretty well agreed that we don't have insurance unless we pay for it. I move that the insurance begin at the 1st of February when the dues are paid, so that the people are not getting insurance for a month for nothing. I move that the committee make that ruling that the insurance begins on the 1st of February.

SECRETARY: Better leave it the 1st of January.

DR. HAY: I move that a reprint of the by-laws be gotten out and distributed so that men will know exactly what the regulations of the Society are.

DR. WINDESHEIM: That motion has been made and carried for the past three years. The committee has been appointed to revise the constitution and by-laws, and have them reprinted and distributed. The chairman of that committee is Dr. Sheldon, from Madison, I think. Dr. Sheldon has promised some of the other members of that committee that we will get together some time and we will do this thing. Because in one place it says council of 12 members, and in another place it says a council of ten members.

DR. HAY: I would like to withdraw my motion with the consent of the second.

DR. SHELDON: It shall be done.

DR. MCMAHON: A matter was left in my hands by Dr. Smith. Dr. Smith of Wausau suggested to the committee on public policy and legislation the other day, that they take up a matter of establishing a fee bill for the members of the State Society to guide the different employers' liability insurance companies, and the Industrial Commission. Dr. Smith was called out of town, and he left a letter for me here.

(Letter read.)

DR. MCMAHON: I believe this can be disposed of by appointing a committee of three to dispose of the matter and report to the delegates. I move you

the appointment of a committee of three to take up this subject, act upon it and report.

Motion carried.

Roll call.

PRESIDENT: I move we defer the balance of the business until to-morrow morning's session. Is the Nominating Committee ready to report?

CHAIRMAN: Yes.

REPORT OF NOMINATING COMMITTEE.

For president—Dr. Chas. S. Sheldon, Madison.
Vice-President—
Dr. C. A. Evans, Milwaukee.
Dr. C. J. Combs, Oshkosh.
Dr. Edward Kinne, Elkhorn.
Committee on Prevention of Tuberculosis—
Dr. M. P. Ravenel, Madison, Chairman.
Dr. C. A. Harper, Madison.
Dr. Gilbert E. Seaman, Milwaukee.
Dr. Hoyt E. Dearholt, Milwaukee.
Dr. Thomas Hay, Stevens Point.
Committee on Medical Education—
Dr. Edw. Evans, La Crosse.
Dr. E. S. Hayes, Eau Claire.
Dr. W. H. Washburn, Milwaukee.
Committee on Public Policy and Legislation—
Dr. A. W. Gray, Milwaukee.
Dr. J. P. McMahon, Milwaukee.
Dr. F. F. Bowman, Madison.
Committee on Necrology—
Dr. A. W. Myers, Milwaukee, Chairman.
Dr. J. C. Reynolds, Lake Geneva.
Dr. E. L. Boothby, Hammond.
Committee to act with Board of Public Instructions, A. M. A.—
Dr. C. A. Bardeen, Madison.
Delegate to Nat. Legislative Council, A. M. A.—
Dr. A. J. Patek.
Delegate to Council of Medical Education, A. M. A.—
Dr. Henry B. Hitz.

J. R. CURRENS, *Chairman.*
G. WINDESHEIM, *Secretary.*

Adjournment on motion.

SESSION HOUSE OF DELEGATES,

OCT. 3rd, 1913, 8:30 A. M.

Meeting called to order by the President.

Roll called by the Secretary.

Minutes of last meeting read.

PRESIDENT: There was one thing omitted yesterday in that resolution for the appointment of a cancer commission. The request was made that the commission be given certain powers, and also that a certain sum of money, any sum they might ask, or which to this body might seem desirable, to further their inquiry. I do not know how much it would require, probably very little, but I think it might be proper to give them the privilege of drawing on the Society for anything that they may need in their inquiry. And I feel the same way about the other committee to investigate the fee question. Can they go ahead and incur expense without a resolution?

SECRETARY: Oh, moderately. I suppose that is carried with the appointment, that they are justified in making necessary expenses, within limits.

DR. CURRENS: There is a question in my mind in regard to that fee matter that came up. Dr. Sheldon seems to think it was not carried yesterday; it was my impression that it was.

DR. SHELDON: I was mistaken if it was carried.

DR. MCMAHON: It is not a fee bill for the State Medical Society, simply a bill to guide the Industrial Commission in different insurance matters. It is made at the request of Dr. Smith who has had it up with the Employers' Mutual Liability Company.

SECRETARY: It should be specifically stated what it means.

DR. PATEK: Just make a minute of what it is, and we will read it later to the House, and have that acted upon. Defer action on that until we finish anything else that we have.

SECRETARY: You have not appointed that committee, Mr. President.

PRESIDENT: You suggest there is some incompleteness about the Tuberculosis Committee, that that had not been completed. Wasn't there some action to be taken on a certain resolution?

DR. DEARHOLT: No.

PRESIDENT: I think we ought to consider the request of anybody who has been put on a committee, that he be not obliged to serve on a committee if he feels for certain reasons he cannot, or may serve better if not on the committee. Now, Dr. Dearholt is very conscientious in what he says, and I know that he can do quite as well if he is not on the Tuberculosis Committee, through cooperation with these men, as he can on the committee, and it deprives the committee of a member they might as well have.

DR. DEARHOLT: We want a wider representation among yourselves, who are not professionally engaged. I will do just as much off the committee as on it, and I think another man from the Society would strengthen that committee immensely, and

the committee not weakened in any wise by my not being in.

DR. WINDESHEIM: I agree with Dr. Dearholt. Viewing it in this light, he is right. If another man was on that committee in his stead it would be better for the work, because Dr. Dearholt will work in conjunction with that committee and, as he says, we will have that more effective representation.

PRESIDENT: This Society can reconsider its action taken yesterday. The nominating Committee does not have to act again. Somebody else can make a nomination, and we can act upon that.

SECRETARY: I move that we reconsider the action taken by the Society in regard to the report of the nominating committee.

Motion carried.

SECRETARY: In pursuance of that motion I move that the name of Dr. J. M. Beffel be substituted for that of Dr. H. E. Dearholt on the committee on tuberculosis; and that the name of Dr. Arthur G. Sullivan be substituted in the place of Dr. A. W. Gray on the committee on public policy and legislation, and that the name of Dr. H. B. Hitz be substituted as delegate to the National Legislative Council in place of Dr. A. J. Patek, and that Dr. A. J. Patek be substituted as delegate to the Council of Medical Education in the place of Dr. H. B. Hitz.

Motion carried.

DR. J. P. MCMAHON: This resolution regarding the fee bill would read somewhat as follows:

RESOLVED, That the retiring president appoint a committee of three to establish a fee bill for the guidance of the Industrial Commission of Wisconsin and liability insurance companies in the settlement of accident claims.

PRESIDENT: That is a very important matter.

DR. CURRENS: There are parts of this state where the doctors get a dollar a mile for attending a case, and there are others where they get 50 cents a mile, and it is getting to be a mighty hard thing.

DR. MCMAHON: This fee bill would refer almost entirely to the charges made for his services, and subsequent charges would be according to the charges made in the respective communities.

SECRETARY: I suppose it would be a sort of a guide anyway, a sort of authority to refer to in case protest is made.

DR. WINDESHEIM: If I remember rightly, the Industrial Commission has communicated with the various county secretaries in regard to those fees, and I know it came up in our county meeting, and the members did not feel as though they wanted to make a fee bill. They used to have one that nobody ever followed. So the county secretary sent in the old fee bill that the old previously existing county society had. I think what they want is simply a guide.

The only way I see out of that would be for the various county secretaries to see what the travel fees are.

DR. RIORDAN: The suggestion of Dr. Sheldon is very proper and appropriate at this time, to make it high enough. If you make your fee bill high enough you can always drop down. But it is difficult to go up. So I just simply offered that as a suggestion. Some of the members are here, and that is sufficient, I think.

DR. MCMAHON: The communication sent to the Milwaukee County Medical Society by the Industrial Commission asks for a minimum fee bill.

DR. SHELDON: Make it a minimum fee bill.

DR. MCMAHON: It has got to be a minimum fee bill to honor the request of the Commission, rather than a maximum fee bill. At least we were led to believe by the committee that formulated the fee bill in Milwaukee that the Industrial Commission would not stand a high charge, and they wanted the minimum fee bill, and in some cases might allow more. Dr. Jermain is a member of the committee. I think it is important to have it right, and I wish to hear from him.

DR. RIORDAN: I move that the Chair appoint a committee of three members to secure some means of establishing a suggestive fee bill which would not conflict with the statute laws of Wisconsin, for the guidance of the State Industrial Commission. I am sure that that can be done simply as a suggestion, as you said. In this case we certainly need it. There will be some ridiculous charges if there is not some sort of guidance, and by having this incorporated by a committee, they will find means of getting around any law, I am sure, if it is in conflict with the law; just simply a guide for the Industrial Commission, not anything that is an active fee bill on our part, but simply a guide.

DR. MCMAHON: It is not likely it will conflict with the law, or the Industrial Commission would not have asked for it.

DR. CURRENS: Of course it is very necessary to

try and avoid the differences in the fee in different localities. We have a county fee bill in our county, an old one, and I have tried to live up to it. Our town is a manufacturing town; we have machinery that runs 18 or 20 thousand a minute, and small saws, and they do quick work, and we have lots of hand surgery, little things. For amputated fingers, for example, according to our fee bill, we are allowed $5 for amputating, or for more than one, $10, that is, if we have three; I have always put in my bill straight according to the fee bill. We handle in our office over 500 cases, and some of them are mere cuts, but we dress everything, on account of infection. We have a great deal of trouble from infection in the woodwork concerns; they handle birchwood from a certain locality, and we do a great deal on that account. I found a case come up, one of these men that settle claims came around and wanted to know what I charged in such and such a case, and I found that some fellow up at Manitowoc went to work and amputated a finger, and charged $15, held them up. Now if $15 is a reasonable charge, I want it.

PRESIDENT: This puts a minimum fee of $5, whatever it was; anything above that will be considered outside of the minimum.

DR. L. F. JERMAIN: At the time this matter was up before the County Medical Society of Milwaukee County, it was quite thoroughly discussed, and there was a good deal of opposition at that time on the part of many members to the establishment of a fee bill; but after a very thorough discussion it was thought best to furnish the Industrial Commission with a minimum fee bill, because of the fact that the men on the Commission were laymen and did not know what medical services were worth, and in many instances the members of the profession had difficulty in collecting a reasonable fee for certain work, because the Commission did not know the value of that work. For that reason the committee was appointed, consisting of Drs. McDill, Lemon and myself. We drew up a minimum fee bill. I have not a copy of it with me, but there are a number of them printed by the County Medical Society, and they were distributed among the members of the County Medical Society here in Milwaukee.

SECRETARY: For the purposes of the Industrial Commission, why could not that be adopted by the state.

DR. JERMAIN: That, of course, does not bind the members to that fee bill at all. Any member in the profession in Milwaukee may charge whatever he pleases; but when it comes to the Industrial Commission he ought to have that fee bill so that he does not go below the minimum which has been established in his charges. He may go above, and if he gets his money from the Commission, well and good, but he should not go below the established minimum fee bill. For that reason I think it would be well if the men, especially in the larger centers of population, had a uniform fee bill that they could go by when it comes to cases that are handled by the Industrial Commission, especially the men in Oshkosh, Fond du Lac, Kenosha, and places of that kind, the industrial centers, where accidents are apt to happen.

DR. MCMAHON: I should like to say this, that I compared the fee bill as established by the Medical Society of Milwaukee County with that of the Mutual Employers' Liability Insurance Co., and in practically every instance the minimum fee bill was twice as great as what they are allowing their men at the present time, and in many cases three times.

SECRETARY: You think it is too high?

DR. MCMAHON: No, I think it is all right, but I think physicians will earn more than in the past if the Commission adopts this fee bill.

DR. CURRENS: The trouble is a great many have signed a fee bill. I have never signed a fee bill in my life, and never would, and I have done work up there for 25 years.

DR. WARFIELD: Why could we not present this fee bill of the Milwaukee Medical Society and ask if that bill is satisfactory to them, and close the discussion.

PRESIDENT: I think we better rescind the action of yesterday, because that is on the official record as the official action. If we are going to reconsider, we better withdraw it by a motion to rescind.

DR. WARFIELD: We have a fee bill that is satisfactory to at least a number of men; that certainly would give us a point of attack, if it is satisfactory to everybody, that would settle it.

DR. WINDESHEIM: I move you that the Chair appoint a committee of three to get up this fee bill, and give that committee power for final action, and not report to the House any more.

SECRETARY: I move that the action taken yesterday be rescinded.

Motion seconded.

DR. WINDESHEIM: I move that the action be rescinded, and that the motion be the same as it reads there, striking out the word "report" and give the committee power for final action.

PRESIDENT: The trouble about this is that it is to report upon minimum fees for industrial cases, or in connection with industrial insurance. We will incorporate that in the motion.

DR. CURRENS: I suggest this, that a committee be appointed with the authority to report a minimum fee to the Industrial Commission, if asked for.

PRESIDENT: They can go at it in any way they see fit. We will give it to the county societies.

You have heard the motion that a committee be appointed with power to act either through the county societies, or whatever way it sees fit, with power to report a fee bill to the Industrial Commission.

All those in favor of rescinding the action in accordance with the motion will say aye.

Carried unanimously.

PRESIDENT: All in favor of the second motion, to put this in the form in which we really want it, will please say aye.

Motion carried unanimously.

DR. JERMAIN: Does anybody know of any other county society that has furnished the Industrial Commission with a minimum fee bill, outside of Milwaukee County?

PRESIDENT: It is up to that committee to communicate with the county societies.

DR. CURRENS: I do not remember; I think our county society was instructed to send them a copy of our old fee bill.

SECRETARY: A committee was appointed to suggest the names of ten men from which to select a member of the state board of medical exxaminers. I do not know whether that committee is to report or not.

The committee is not able to report satisfactorily this morning, and would like to have the committee empowered to report to the council and executive officers of the society at a later date, in the near future, however.

DR. WARFIELD: I move you that that be done.

PRESIDENT: It is moved and seconded that the committee on nominations of ten be empowered to make its report later, and to the council. All in favor of that motion will say aye.

Motion carried unanimously.

The report of the councilor from the 5th district was presented by Dr. G. V. Mears, Fond du Lac, as follows:

The 5th district is in good shape. Calumet is the banner county in the state. Sheboygan is in good condition. Manitowoc is always steady, and so is Fond du Lac. The condition of the whole district is good.

PRESIDENT: Is there anything else under the head of miscellaneous business to come before the House?

DR. MCMAHON: The matter of re-districting the councilor district presided over by Dr. Mears was deferred until he reached here.

PRESIDENT: Dr. Sheldon, will you kindly present to Dr. Mears the question of re-districting?

SECRETARY: The question was of attaching Fond du Lac to Dr. Abraham's district.

DR. MEARS: That would be a very desirable thing, because Sheboygan, Manitowoc and Calumet are together, and we are way off; we cannot get back and forth. If we were attached to Winnebago we would be all right together there; we belong there.

SECRETARY: I move that the county of Fond du Lac be detached from the 5th district and added to the 6th district.

Motion seconded.

Motion put and carried unanimously.

PRESIDENT: I would like to make the announcement of committee appointments.

The Committee on Industrial Fee Bill will be Dr. Smith of Wausau, Dr. Jermain of Milwaukee, and Dr. Morgenroth of Oshkosh.

On the Cancer Commission I will appoint Dr. Bunting of Madison, Dr. Warfield of Milwaukee, and Dr. Edward Evans of La Crosse, Dr. Yates of Milwaukee, and Dr. P. F. Rogers of Milwaukee. There are three Milwaukee men on that committee, but they work together pretty well, or can, and I think that it might be easier to effect a result.

On the Split Fee Committee, I will appoint Dr. Reginald Jackson of Madison, Dr. D. Hopkinson of Milwaukee, Dr. J. F. Ford of Milwaukee, Dr. Adams of Kenosha, and Dr. Nott of Racine.

On motion duly seconded and carried the House of Delegates adjourned.

LIST OF MEMBERS OF THE STATE MEDICAL SOCIETY OF WISCONSIN

Abaly, W. C., Madison.
Abbott, C. N., Chippewa Falls.
Abbott, Le Roy, Ontario.
Abraham, Henry W., Appleton.
Ackerman, William, Milwaukee.
Ackley, S. Breck, Waukesha.
Adams, G. F., Kenosha.
Adams, H. R., Marinette.
Adams, John C., Superior.
Addleman, I. M., Wausau.
Akerly, A. W., Danville, Ill.
Albers, Herman H., Allentown.
Alcorn, D. N., Stevens Point.
Alderson, J. C., Wausau.
Alexander, G. L., Milwaukee.
Allen, C. F., Middleton.
Allen, Frank, Staples, Minn.
Allen, J. P., Beloit.
Allen, S. P., Oshkosh.
Allen, W. J., Beloit.
Altman, Maurice, Milwaukee.
Amsel, J., Milwaukee.
Amundson, A. C., Cambridge.
Amundson, P. B., Mondovi.
Andersen, Jens, Racine.
Anderson, C. M., Wild Rose
Anderson, O. N., Plum City.
Andre, Frank E., Kenosha.
Andrews, C. W., Kramer, Ind.
Andrews, M. P., Beloit.
Andrews, N. S., Oshkosh.
Andrus, A. P., Ashland.
Ankenbrandt, A. A., Schleisingerville.
Antoine, F. J., Prairie du Chien.
Aplin, F. W., Waukesha.
Armstrong, Charles A., Prairie du Chien.
Armstrong, C. E., Oconto.
Armstrong, L. G., Boscobel.
Arnold, F. W., Milwaukee.
Arnson, J. O., Eau Claire.
Arveson, R. G., Frederic.
Ashley, T. W., Kenosha.
Ashum, D. W., Eau Claire.
Aubin, J. N., Peshtigo.
Aus, J. L. N., Deer Park
Axtell, E. E., Marinette.
Axtell, L. E., Marinette.
Aylward, R. C., Madison.
Baasen, John M., Mt. Calvary.
Babcock, Frank, Cumberland.
Babcock, I. G., Cumberland.
Bach, J. A., Milwaukee.
Bachhuber, A. E., Mayville.
Bachhuber, L. M., Mayville.
Baer, A. N., Milwaukee.
Baer, C. A., Milwaukee.
Bailey, M. A., Fennimore.
Bair, F. M., Lake Mills.
Baird, John, Superior.
Baird, J. C., Eau Claire.
Baker, Geo. R., Tomahawk.
Baker, J. C., Hawkins.
Baker, J. H., Bryant.
Baker, W. F., Birnamwood.
Baldwin, Geo. E., Dartford.
Baldwin, F. H., Bloomington.
Balkwill, C. A., Grafton.
Bancroft, H. V., Blue Mounds.
Banks, W. H., Hudson.
Bannen, W. E., La Crosse.
Barber, J. L., Marathon.
Bardeen, C. R., Madison.
Barker, G. A., Menomonie.
Barndt, M. A., Milwaukee.
Barnes, F. C., Rinon.
Barnes, H. T., Pewaukee.
Barnes, J. Steele, Milwaukee.
Barnett, J. R., Neenah.
Barnett J. R., Jr., Neenah.
Barnstein, C., Timothy.
Barnstein, J. E., Manitowoc.
Barrett, E. J., Sheboygan.
Barry, Howard, Sun Prairie.
Barth, George P., Milwaukee.
Bartram, W. H., Green Bay.
Batcheld, C. W., Pine River.
Batchelor, Gertrude, Madison.
Batchelor, W. A., Milwaukee.
Bath D. H., Oshkosh.
Batty, A. J., Portage.
Bauer, K. T., Adell
Baum, F. L., Milwaukee.
Bayer W. H., Gleason.
Bear, W. G., Monroe.
Beck, A. A., Johnson Creek.
Becker, B. A., Silver Lake.
Becker, W. F., Milwaukee.
Becker, Wilhelm, Milwaukee.
Beckman, Charles R., La Crosse.
Bedley, H. E., Downing.
Beebe, Carl M., Sparta.
Beebe, C. S., Milwaukee.
Beebe, L. W., Superior.
Beebe, P. A., Glenwood.
Beebe, S. D., Sparta
Beech, G. D., Baraboo.
Beffel, J. M., Milwaukee.
Beier, A. L., Chippewa Falls.
Belitz, William, Cochrane.
Belitz, Alfred, Chicago.
Bell, A. R., Tomah.
Bellack, Bernhard F., Columbus.
Bellin, J. J., Green Bay.
Bellin, Joseph J., Green Bay.
Bellis, G. L., Wales.
Bender, J. L., Luxemburg.
Bennett, L. J., Ft. Atkinson.
Benson, Gideon, Richland Center.
Beutler, Wm. F., Wauwatosa.
Bentley, Frederick D., Portage.
Bentzien, E. W., Milwaukee.
Berger, A. J., North Freedom.
Bergh, C., Whitehall.
Berglund, S., Marinette.
Bernhard, A., Milwaukee.
Bernstein, M. A., Kenosha.
Berquist, K. E., Galesville.
Bertrand, J. H., De Forest.
Betz, J. C., Boscobel.
von Beust, M., Milwaukee.
Beyer, A. G., Milwaukee.
Beyer, H., Pittsville.
Bickford, L. C.
Bill, B. J., Genoa Junction.
Binnewies, F. C., Milton.
Binnie, Helen A., Poynette.
Binnie, John, Poynette.
Birbeck, Samuel, Gratiot.
Bird, H. R., Madison.
Bird, Maurice D., Marinette.
Birkl, J. A., Milwaukee.
Bishop, L. A., Fond du Lac.
Black, Nelson M., Milwaukee.
Blackburn, F. E., Cassville.
Blaine, E. S., Milwaukee.
Blair, J. C. Hazel Green.
Blank, Henry, Milwaukee.
Blekking, J. H., Stratford.
Blewett, M. T., Markesan.
Blumenthal, R. W., Milwaukee.
Blumer, Ed., Monticello.
Bock, F. J., Lancaster.
Bock, Otto B., Sheboygan.
Bodden, A. M., Milwaukee.
Boerner, R. W., Milwaukee.
Boernstein, Max, Milwaukee.
Bolton, E. L., Chilton.
Booker, J. S., Richland Center.
Boorse, Lorenzo, Milwaukee.
Borchardt, A. L. C., New London.
Borden, F. R., Plainfield.
Boretti, A. F., Milwaukee.
Bossard, Clemons, Richfield.
Bossard, M., Spring Green.
Bothwell, D. F., Pardeeville.
Bowen, H. P., Johnson Creek.
Bowman, Frank F., Madison.
Boyce, Samuel R., Madison.
Boyd, C. D., Kaukauna.
Boyd, Guy D., Fond du Lac.
Bradbury, E. L., Neillsville.
Bradfield, J. A. L., La Crosse.
Bradford, E. B., Hudson.
Bradley, H. E., Milwaukee.
Brady, D. L., Cuba City.
Brah, A. J., Milwaukee.
Braun, Otto, Ashland.
Breakey, E. R., Alma Center.
Breckenridge, H. E., Racine.
Breed, A. L., Rock Elm.
Brehm, H. J., Racine.
Brehm, Theodore, Racine.
Brett, B. C., Green Bay.
Brey, P. J., Milwaukee.
Brickbauer, G., Plymouth.
Briggs, S. J., Sun Prairie.
Broche, A. H., Oshkosh.
Brockway, F., Oshkosh.
Bromley, F. W., Whitewater.
Brooks, E. H., Appleton.
Brooks, F. D., Fox Lake.
Brown, A. D., Mineral Point.
Brown, A. L., Wausau.
Brown, E. B., Beloit.
Brown, F. W. A., Oshkosh.
Brown, G. V. I., Milwaukee.
Brown, H. M., Milwaukee.
Brown, John F., Sparta.
Brown, J. M., New London.
Brown, R. C., Milwaukee.
Brueckbauer, H. G., Sheboygan.
Brunckhorst, F. O., Hortonville.
Bryant, J. R., Wausau.
Buchan, Samuel C., Racine.
Buchanan, R. C., Green Bay
Buckland, R. H., Dartford.
Buckley, T. J., Fayette.
Buckmaster, S. B., Janesville.
Buehler, J. W., Prairie du Sac.
Bugbee, George R., Wausau.
Bunch, M. M., Oshkosh.
Bunting, C. H., Madison.
Burdon, R. M., Green Bay.
Burger, Harry E., Beloit.
Burgess, A. J., Milwaukee.
Burns, A. W., Winneconne.
Burns, E. A., Plymouth.
Burns, J. W., Soudan, Minn.
Butler, E. F., Mosinee.
Butler, F. E., Menominee.
Cady, M. P., Birnamwood.
Caffrey, A. J., Milwaukee.
Cahoon, Roger, Baraboo.
Cain, C. L., Elmwood.
Cairns, R. U., River Falls.
Caldwell, H. C., St. Croix Falls.
Caldwell, M., Waukesha.
Calkins, H. J., Shawano.
Callahan, J. J., La Crosse.
Calvey, P. J., Fond du Lac.
Campbell, A. D., Richland Center.
Campbell, A. F. L., Dunbar.
Campbell, L. A., Clear Lake.
Campbell, W. B., Menomonie Falls.
Canright, Orlo S., East Troy.
Cantwell, W. H., Shawano.
Caples, Byron M., Waukesha.
Carey, E. C., Reedsville.
Cargill, Nellie W., Milwaukee.
Carhart, G. A., Milwaukee.
Carmichael, Chas. S., Helenville.
Carnahan, George M., Bruce.
Carter, R. M., Green Bay.
Casey, Merle, Almond.
Cassidy, W. W., Durand.
Caswell, H. O., Ft. Atkinson.
Caughey, C. R., Kenosha.
Cavanaugh, T. E., Milwaukee.
Cavaney, J., Milwaukee.
Chambers, H. P., Florence.
Chandler, Ada B., Pardeeville.
Chandler, Joseph, Pardeeville.
Chaney, Eugene, Milwaukee.
Chapman, F. M., Milwaukee.
Charles, C. H., Goodman.
Charron, T. A., Rice Lake.
Chase, R. R., Eau Claire.
Chilson, Benjamin, Beloit.
Chipman, H. A., Stoughton.
Chloupek, C. J., Green Bay.
Chorlog, J. K., Madison.
Christensen, C., La Crosse.
Christensen, E. S., Two Rivers.
Christensen, F. C., Racine.
Christensen, J. W., Westby.
Christenson, O. A., Hawkins.
Christian, E. F., La Crosse.
Christianson, George, La Crosse.
Christofferson, A. M., Colby.
Christofferson, H. H., Colby.
Christofferson, P. J., Waupaca.
Churchill, B. P., Milwaukee.
Clancy, W. J., Eau Claire.
Claridge, R. A., Bruce.
Clark, F. T., Waupun.
Clark, R. B., Monroe.
Clark, W. T., Ft. Atkinson.
Clarke, Burton, Oshkosh.
Clarke, T. C., Oconto.
Clason, Jesse A., Fond du Lac.
Clawson, H. E., Red Granite.
Cleary, B. L., Edgerton.
Cleary, J. H., Kenosha.
Coffey, C. J., Milwaukee.
Cohn, Arthur H., Milwaukee.
Cole, E. J., Rockton, Ill.
Coleman, H. M., Barron.
Collins, D. B., Madison.
Collins, F. E., Athens.

Collins, W. P., Racine.
Combacker, L. C., Osceola.
Combs, C. J., Oshkosh.
Comer, W. C., Cecil.
Comfort, A. I., National Soldiers Home, Milwaukee.
Conkey, Charles D., Superior.
Conklin, G. H., Superior.
Conley, John M., Oshkosh.
Connell, D. R., Beloit.
Connell, F. G., Oshkosh.
Connell, James P., Fond du Lac.
Connor, H. J., Superior.
Conway, H. P., Spring Valley.
Cook, C. A., Madison.
Cook, E. H., Watertown.
Cook, E. P.
Cook, F. S., Eau Claire.
Coon, G. E., Milton Junction.
Coon, J. W., Wales.
Coon, W. W., Albion.
Cooney, E. W., Appleton.
Copeland, Ernest, Milwaukee.
Corbett, J. F., Alhambra, Cal.
Corbett, M. E., Oshkosh.
Corlett, M. S., Waterford.
Cornwall, W. B., Turtle Lake.
Corr, Anna S. B., Juneau.
Corr, J. T., Racine.
Corry, F. M., Menasha.
Cotnoir, A. B., Marinette.
Cottington, Miles D., Lake Geneva.
Cotton, H. C., Prescott.
Coumbe, Warren A., Blue River.
Cowan, W. F., Stevens Point.
Cox, A. M., Auburndale.
Cox, James, Jefferson.
Crane, M. C., Osseo.
Cremer, C. H., Cashton.
Cressey, L. E., South Wayne.
Crikelair, F. T., Green Bay.
Critman, E. S., Almena.
Crockett, W. W., Beloit.
Crommett, H. B., Amery.
Cron, Charles O., Camp Douglas.
Cronyn, W. J., Milwaukee.
Crosby, E. P., Arnott.
Crosby, G. W., Sheboygan.
Cunningham, J. N., Stanley.
Cunningham, M. A., Janesville.
Cunningham, R. B., Cadott.
Cunningham, Wilson, Platteville.
Curless, Grant C., Walworth.
Currens, J. R., Two Rivers.
Curtin, J. J., Wheeler.
Cutler, John C., Norge, Va.
Cutler, John D., Tomahawk.
Cutler, J. S., Wauwatosa.
Dahl, L. A., Menomonie.
Dailey, P. J., Elcho.
Dana, A. C., Fond du Lac.
Daniels, Alfred, Rhinelander.
Daniels, Lewis, Milwaukee.
Daniels, W. N., Mosinee.
Darby, G. S., Brodhead.
Darby, Henry C., Wilmot.
Darling, Earl, Milwaukee.
Darling, F. E., Milwaukee.
Darling, W. G., Milwaukee.
Darling, W. H., Hudson.
Daugherty, A. A., Boaz.
Daugherty, C. F., Richland Center.
Daugherty, J. S., Lena.
Davies, Richard E., Waukesha.
Dawley, Geo. T., New London.
Dawley, J. H., Laona.
Dawson, C. A., River Falls.
Dawson, P. M., Madison.
Dean, J. F., Madison.
Dearholt, Hoyt E., Milwaukee.
DeBesche, Johan, Milwaukee.
DeGaris, C. S., Madison.
Deicher, H. F., Plymouth.
Delaney, H. O., Beloit.
DeLap, R. H., Richland Center.
DeMers, J. J., Cassville.
DeNeveu, A. C., Wyocena.
Derge, H. F., Eau Claire.
Dernehl, P. H., Milwaukee.
Devine, C. B., Marshall.
DeVoe, C. A., Berlin.
DeWane, Jos., Boyceville.
Dewey, Richard, Wauwatosa.
Dewire, Milton, Sharon.
Dickens, W. C., Wausau.
Dickenson, G. H., Milwaukee.
Dike, C. E., Janesville.
Dill, Geo. M., Prescott.
Dillmann, A. E., Steuben.
Dodd, John M., Ashland.
Doege, Carl W., Marshfield.
Doern, R. E., Stockbridge.
Doern, W. G., Milwaukee.
Dohearty, W. H., Peshtigo.
Doherty, F. P., Appleton.
Dollard, E. C., Neenah.
Domann, W. G., Friendship.
Donald, W. J., Tunnel City.
Donaldson, F. E., Kaukauna.
Donaldson, Geo. F., Shiocton.
Donnell, J. E., Cuba City.
Donnelly, F. J., Monches.
Donohue, E. J., Antigo.
Donohue, M. J., Antigo.
Donohue, W. E., Manitowoc.
Donovan, J. P., Madison.
Doolittle, J. C., Lancaster.
Doolittle, S. Wade, Lancaster.
Doyle, Jos. H., Little Chute.
Drake, Frank I., Waupun.
Draper, M. P., Waterloo.
Drexel, A., Milwaukee.
Dries, Joseph, Milwaukee.
Driessel, H., Kewaskum.
Driessel, S. J., Barton.
Dunn, E. A., Platteville.
Dunseth, G. O., Dalton.
Durr, William, Milwaukee.
Dusenberry, G. E., Amherst.
Dwight, C. G., Madison.
Dysart, R. J., Winnebago.
Eakins, F. C., Waukesha.
Eastman, J. Russell, Kenosha.
Eaton, Howard, Shopiere.
Echols, C. M., Milwaukee.
Eck, G. E., Lake Mills.
Eckert, A. O., Iron Ridge.
Edwards, A., Reedsburg.
Edwards, John B., Nevada.
Edwards, W. A., La Crosse.
Edwards, William M., Nevada.
Egan, Gregory, La Crosse.
Egdahl, A., Menomonie.
Egeland, G. R., Ephraim.
Egloff, L. W., Elkhart Lake.
Ehlert, E. H., Minneapolis.
Ehmer, J. W., Lomira.
Eichelberg, F. A., Reeseville.
Eisen, Paul, Chicago, Ill.
Ekblad, V. E., Superior.
Elfers, Jos. C., Sheboygan.
Ellenson, Eugene, Chippewa Falls.
Ellenson, E. P., Milwaukee.
Elliot, J. T., Rhinelander.
Elliot, Sara, Lake Worth, Fla.
Elliott, E. S., Fox Lake.
Ellis, W. H., Barron.
Elmergreen, Ralph, Milwaukee.
Elsom, J. C., Madison.
English, J. E., Baraboo.
Engsberg, Wm. A., Lake Mills.
Ennis, S. A. J., Shullsburg.
Epley, O. H., New Richmond.
Erdman, Charles H., Stanley.
Ericksen, H. C., Stanley.
Ernst, G. R., Milwaukee.
Evans, Curtis A., Milwaukee.
Evans, Edward, South Milwaukee.
Evans, Edward E., La Crosse.
Evans, J. M., Evansville.
Evans, J. S., Madison.
Evans, N. C., Mt. Horeb.
Evans, O., Bangor.
Evans, T. W., Madison.
Eyster, J. A. E., Madison.
Faber, Charles A., Milwaukee.
Fairfield, W. E., Green Bay.
Falge, Louis, Manitowoc.
Farnsworth, A. L., Baraboo.
Farnsworth, F. B., Janesville.
Farr, J. F., Eau Claire.
Farr, William M., Kenosha.
Farrell, A. M., Two Rivers.
Faulds, Robert C., Abrams.
Fazen, L. E., Racine.
Fechter, F. J., Elkhart Lake.
Federman, F. H., Montello.
Federspiel, M. N., Milwaukee.
Feld, Carl R., Watertown.
Fellman, George H., Milwaukee.
Felter, E., Plymouth.
Fenelon, Charles D., Phillips.
Festerling, E. J., Reedsville.
Fickes, H. C., Owen
Fidler, C. A., Milwaukee.
Fiebiger, G. J., Waterloo.
Fiedler, Otho, Sheboygan.
Field, F. T., Elroy.
Fifield, G. W., Janesville.
Finney, W. H., Clintonville.
Fischer, Herman, Madison.
Fish, E. C., Mosinee.
Fisher, B. B., Wild Rose.
Fitzgerald, J. J., Eagle.
Fitzgibbon, Thomas, Milwaukee.
Fitzgibbon, William, Milwaukee.
Fitzpatrick, M. L., Milwaukee.
Flatley, M. A., Antigo.
Flatley, T. J., Antigo.
Fleek, J. L., Brodhead.
Fletcher, E. A., Milwaukee.
Fletcher, F. E., Ashland.
Fletcher, William T., Salem.
Flower, C. D., Park Falls.
Flynn, R. E., La Crosse.
Flynn, L. H., Eau Claire.
Foat, John S., Ripon.
Foerster, Otto H., Milwaukee.
Foley, F. P., Dorchester.
Folsom, W. H., Markesan.
Forbush, S. W., Orfordville.
Force, O. O., Pardeeville.
Ford, W. B., Milwaukee.
Forkin, G. E., Menasha.
Fortier, C. A. H., Milwaukee.
Foster, A. M., Kaukauna.
Foster, Fred L., Fond du Lac.
Fowle, F. F., Wauwatosa.
Fowle, I. H., Milwaukee.
Fowler, J. H., Lancaster.
Fox, George W., Milwaukee.
Fox, P. A., Beloit.
Fox, Phillip, Madison.
Fox, Phillip R., Madison.
Fox, W. E., Milwaukee.
France, J. J., Milwaukee.
Francis, J. H., Bloomer.
Frank, J. H., Neillsville.
Frank, J. H., Milwaukee.
Frank, L. F., Milwaukee.
Frankle, H. M., Bloomer.
Franklin, Isadore, Milwaukee.
Franzel, J. E., Howards' Grove.
Frawley, Ray M., Wausau.
Freeman, Daniel, Colby.
French, S. W., Milwaukee.
Frey, G. R., Milwaukee.
Frey, P. G., Washburn.
Friedrick, R. O., Milwaukee.
Friend, L. J., Abbottsford.
Froelich, J. H., Princeton.
Froggatt, W. E. L., Cross Plains.
Frost, Carrie, Chippewa Falls.
Fucile, E. J., Williams Bay.
Fuerstenau, L. A., Milwaukee.
Fuldner, Louis, Milwaukee.
Fuller, C. O., Stratford.
Fuller, M. H., Angelica.
Fulton, H. A., Eau Claire.
Fulton, William A., Burlington.
Furstman, J. M., La Crosse.
Gaenslen, F. J., Milwaukee.
Ganser, W. J., Madison.
Gasser, Herman, Platteville.
Gates, A. J., Tigerton.
Gault, John A., Lancaster.
Gaunt, P. L., Oconto.
Gauvreau, F. T., Superior.
Gavin, Stephan A., Fond du Lac.
Gendron, A. E., River Falls.
Genter, A. F., Sheboygan.
Genhart, C. H., Kenosha.
Gerend, Alphonse, Cato.
Germano, G. A., Kenosha.
Gibbs, G. L., Marshall.
Giesen, C. W., Superior.
Gifford, H. B., Juda.
Gilberson, P. C., Story City, Ia.
Gilbert, H. A., Madison.
Gilette, Harry A., Amherst Junction.
Gill, J. F., Madison.
Gillen, F. C., Milwaukee.
Gilles, A. S., Waukesha.
Gillespie, Thomas, Kenosha.
Glasier, Mina B., Bloomington.
Gleason, C. M., Manitowoc.
Gnagi, W. B., Monroe.
Gobar, G. G., Muscoda.
Goddard, J. B., Eau Claire.
Godfrey, Joseph, Lancaster.
Godfrey, Rush, Lancaster.
Goetsch, O. F., Hustisford.
Goggins, J. W., Calumetville.
Goggins, R. J., Oconto Falls.
Golley, F. B., Milwaukee.
Goodfellow, J. R., Superior.
Goodwin, M. P., Clear Lake.

Gordon, J. B., Shawano.
Gorst, Charles, Mendota.
Gosin, D. F., Green Bay.
Gould, C. M., Superior.
Gramling, H. J., Milwaukee.
Gramling, Joseph J., Hales Corners.
Graner, L. G., Pound.
Grannis, E. H., Menomonie.
Grassan, A., Stitzer.
Gratiot, C. C., Shullsburg.
Gratiot, W. M., Mineral Point.
Graves, L. S., Wilton.
Gray, A. W., Milwaukee.
Gray, N. A., Milwaukee.
Gray, R. H., La Crosse.
Green, M. K., Mendota.
Green, W. A., Wausau.
Greenberg, Harry, Milwaukee.
Greenwood, S. D., Neenah.
Gregory, A. T., Elroy.
Gregory, D. H., De Pere.
Gregory, Frank, Valders.
Gregory, W. W., Stevens Point.
Grinde, G. A., Cumberland.
Griswold, C. M., Plymouth.
Grob, A. R. F., Milwaukee.
Grosskopf, E. C., Milwaukee.
Grotjan, W. F., Milwaukee.
Ground, William E., Superior.
Grove, W. E., Milwaukee.
Gudden, B. C., Oshkosh.
Gunderson, A., La Crosse.
Gunther, Emil, Sheboygan.
Gunther, O., Sheboygan.
Gunther, W. H., Sheboygan.
Gutsch, Otto J., Sheboygan.
Guttman, P., Kellnersville.
Gyge, John, Big Falls.
Habhegger, C. J., Watertown.
Hackett, James, Milwaukee.
Hadley, D. A., Oconomowoc.
Hagen, Martin, Viroqua.
Hagerman, F. H., Milwaukee.
Haggerty, E. E., Excelsior.
Hahn, A. F., Eau Claire.
Hall, C. H., Madison.
Hall, Sidney S., Ripon.
Hallock, W. E., Juneau.
Hambley, T. J., Hurley.
Hammond, F. W., Manitowoc.
Hanbrick, Herbert, Oshkosh.
Hanke, Paul, Cashton.
Hankwitz, P. G., Milwaukee.
Hannum, Henry, Bayfield.
Hansen, J., Glenbeulah.
Harbert, Helen, Kenosha.
Hardy, C. F., Milwaukee.
Hargarten, L. J., Milwaukee.
Harlow, G. A., Milwaukee.
Harper, C. A., Madison.
Harriman, Leonard, Lake Mills.
Harrington, D. W., Milwaukee.
Harrington, T. L., Milwaukee.
Harris, R. R., Prairie du Chien.
Harter, Alex F., Marathon.
Hartford, W. P., Cassville.
Harvie, W. D., Grand Rapids.
Haskell, M. W., Richland Center.
Hastings, J. F., Kenosha.
Hastings, T. R., Reedsburg.
Hatch, W. E., Superior.
Haushalter, H. P., Milwaukee.
Hausmann, N. E., Kewaskum.
Haven, S. W., Racine.
Haverstock, H. T., Sharon.
Hawley, F. M., Bayfield.
Hay, Thomas H., Stevens Point.
Hayden, A., Shullsburg.
Hayes, Charles A., Chippewa Falls.
Hayes, D. J., Milwaukee.
Hayes, E. L., Eau Claire.
Hayman, C. S., Boscobel.
Hayman, L. H., Boscobel.
Hayward, J. C., Marshfield.
Head, L. R., Madison.
Hebard, Sue, Mondovi.
Hebron, R. A., Cataract.
Hecker, William, Beloit.
Hedges, A. N., Birchwood.
Heeb, H. J., Milwaukee.
Hefty, C. A., New Glarus.
Hegner, G. T., Appleton.
Heidner, Gustav, West Bend.
Heim, R. R., Marinette.
Heising, Albert, Menomonie.
Helgeson, E. J., New Glarus.
Helm, A. C., Beloit.
Helm, Ernest C., Beloit.
Helz, J. W., Fond du Lac.
Henderson, M. L., Milwaukee.
Hendrickson, H., Green Bay.
Hendrickson, J. A., Larsen.
Henika, G. W., Madison.
Henney, C. W., Portage.
Heraty, J. E., Bloomington.
Hering, E. R., Shell Lake.
Herner, W. L., Oshkosh.
Herron, A. L., Milwaukee.
Hertzman, C. O., Ashland.
Hervey, J. A., Milwaukee.
Hess, C. F., Madison.
Hess, J. W., Adell.
Hewitt, M. R., Milwaukee.
Hickey, R. E., Winchester.
Hicks, L. N., Burlington.
Higgins, E. G., Melrose.
Higgins, S. G., Milwaukee.
Higgs, H. J., Crivitz.
Hilger, William F., Milwaukee.
Hill, Warren B., Milwaukee.
Hilton, G. F., Sturgeon Bay.
Hinckley, H. G., Merrill.
Hines, Lester, Rockbridge.
Hinman, F. S., Rhinelander.
Hinn, Louis P., Fond du Lac.
Hipke, Gustav A., Milwaukee.
Hipke, William, Marshfield.
Hitz, Henry B., Milwaukee.
Hodges, F. L., Monroe.
Hodgson, A. J., Waukesha.
Hoffman, Elmer, Lone Rock.
Hoffman, J. G., Hartford.
Hoffman, Norman, Milwaukee.
Hoffmann, P. A., Campbellsport.
Hoffmier, L. A., Superior.
Hogan, J. H., Racine.
Hogan, J. M., Oshkosh.
Hogue, G. I., Milwaukee.
Holbrook, A. T., Milwaukee.
Hollenbeck, N. W., Milwaukee.
Holliday, M. E., Appleton.
Holtz, H. M., Beaver Dam.
Holz, A. P., Seymour.
Hommel, W. J., Whitewater.
Hopkins, M. M., Oconto.
Hopkins, W. B., Cumberland.
Hopkinson, Daniel, Milwaukee.
Horn, C. P., Viborg, S. Dak.
Horswell, U. M., Wausaukee.
Hosmer, M. S., Ashland.
Houck, M. P., La Crosse.
Houck, Oscar, La Crosse.
Hougen, Edward, Pittsville.
Hough, A. G., Morrisonville.
Hovde, A. G., Superior.
Howard, J. J., Columbus.
Howell, E. C., Fennimore.
Howison, N. L., Menomonie.
Hoyer, A. A., Rudolph.
Hoyer, G. C., Milwaukee.
Hoyer, Lucia, Chicago, Ill.
Hoyt, G. E., Menominee Falls.
Hubenthal, J. C., Belmont.
Huennekins, J. H., Milwaukee.
Hughes, C. W., Winneconne.
Hughes, J. R., Dodgeville.
Hugo, D. G., Oshkosh.
Hull, E. S., Milton Junction.
Hummel, W. J., Abelsman
Hunt, F. O., Fall River.
Hunt, I. H., Tigerton.
Hurd, H. H., Chippewa Falls.
Hurlbut, F. D., Reedsburg.
Hurlbut, W. H., Fond du Lac.
Hutchins, S. E., Trempealeau.
Hyslop, F. R., Nampa, Idaho.
Irvine, Wesley, Manawa.
Irwin, G. H., Lodi.
Irwin, H. J., Baraboo.
Iverson, M., Stoughton.
Jackey, F. D., Thorp.
Jackson, E. C., Ashland.
Jackson, F. A., Eldorado.
Jackson, J. A., Madison.
Jackson, J. A., Jr., Madison.
Jackson, J. A., Rudolph.
Jackson, R. H., Madison.
Jacob, B. U., Waukesha.
Jacobs, E. C., Durand.
Jaffe, Aaron, Milwaukee.
James A. W., Muscoda.
Jamieson, George, Lone Rock.
Jefferson, H. A., Clintonville.
Jegi Henry A., Galesville.
Jenkins, G. W., Kilbourn.
Jenner, A. G., Milwaukee.
Jensen, Anton B., Menasha.
Jermain, Hubert F., Milwaukee.
Jermain, Louis F., Milwaukee.
Jobse, Peter H., Milwaukee.
Jobse, William, Milwaukee.
Johnson, F., Eau Claire.
Johnson, F. J., Iron River.
Johnson, F. P., Ontario.
Johnson, G. B., Abbottsford.
Johnson, H. B., Tomah.
Johnson, H. C., Glen Flora.
Johnson, J. C., Ogdenburg.
Johnston, H. E., Oshkosh.
Johnston, W. M., Dale.
Jones, Asa N., Reedsburg.
Jones, A. W., Randolph.
Jones, David F., Wausau.
Jones, Edward H., Weyauwega.
Jones, F. J., Reedsburg.
Jones, R. W., Wausau.
Jones, Susan, Racine.
Jones, Thomas R., Milwaukee.
Jones, W. A. Oconomowoc.
Jorgenson, P. P. M., Kenosha.
Joslin, ——, Linden.
Judd, W. H., Janesville.
Juergens, L. W., Eureka.
Junck, John A., Sheboygan.
Kahn, Jos., Milwaukee.
Kalling, H., Black River Falls.
Karnopp, G. L., Mishicott.
Karske, W. C., Milwaukee.
Kersten, A. C., Horicon.
Kastner, A. L., Milwaukee.
Kaumheimer, G. J., Milwaukee.
Kauth, P. M., Schleissingerville.
Kay, H. M., Madison.
Kaysen, Ralph, Watertown.
Keech, J. S., Racine.
Keenan, George, Madison.
Keenan, H. A., Stoughton.
Kennedy, F., Greenwood.
Kenney, J. F., Benton.
Keithley, J. A., Palmyra.
Keithley, John W., Beloit.
Keland, G. A., Madison.
Keller, J. M., St. Louis, Mo.
Keller, S. C., Sauk City.
Kelley, J. M., Cato.
Kellogg, E. Wells, Milwaukee.
Kelly, D. M., Baraboo.
Kelly, F. H., Merrill.
Kelly, W. W., Green Bay.
Kemper, Wm. G., Manitowoc.
Kendall, Allen, Prairie du Sac.
Kermott, E. P., Hudson.
Kerner, C. A.
Kersten, A. M., De Pere.
Kersten, N. M., De Pere.
Kiefer, J. G., Milwaukee.
King, C. F., Hudson.
King, G. F., Green Bay.
Kings, J. T., Watertown.
Kingsley, J. R., Sheboygan.
Kinne, Edward, Elkhorn.
Kissling, C. L., Milwaukee.
Kitzke, F. W., Milwaukee.
Kleinboehl, J. W., Birmingham, Ala.
Kleinhans, F. A., Milwaukee.
Kleinhans, M. A., Milwaukee.
Klemm, Louis F., Milwaukee.
Kletzsch, Gustav, Milwaukee.
Knauf, A. J., Sheboygan.
Knauf, F. P., Kiel.
Knauf, Geo. E., Sheboygan.
Knauf, Nicholas, Chilton.
Knowles, W. M., Spooner.
Knox, C. S., Superior.
Knutson, Oscar, Osseo.
Koch, A. T., Wausau.
Koehler, H. H., Oshkosh.
Koehler, J. P., Milwaukee.
Kortebein, Henry, Milwaukee.
Kradwell, Wm. T., Racine.
Krahn, A. J., Beaver Dam.
Krahn, G., Oconto Falls.
Kratzsch, A. W., Milwaukee.
Kraut, Beetown.
Kremers, Alex., Milwaukee.
Kriz, G. H., Milwaukee.
Krueger, Bernhard, Cudahy.
Krygiar, A. A., Milwaukee.
Kuhlig, A. H., Dodge.
Kunny, Barthelomew, Cylon.
Kyes, S. M., Owen.
LaBreck, F. A., Eau Claire.
Lacy, F. W., Footville.
Lademann, O. E., Milwaukee.
Ladwig, W. A., Edgar.
Laird, J. J., Black Creek.
Lalor, J. C., Sauk City.

Lambeck, F. J., Milwaukee.
Lando, D. H., Milwaukee.
Lang, Jacob, Milwaukee.
Langland, P., Milwaukee.
Lansdowne, F. B., Kenosha.
Larsen, G. A., Blanchardville.
Larsen, L. A., Colfax.
Latham, C. O., Darlington.
Laughlin, D. M., Milwaukee.
Law, W. G., Glidden.
Lawler, C. F., Hilbert.
Lawler, T. S., Lyndon Station.
Lawlor, G. W., Sussex.
Lawrence, G. H., Galesville.
Layton, O. M., Fond du Lac.
LeCron, W. L., Milwaukee.
Lee, J. H., Iola.
Lee, J. W., Minneapolis, Minn.
Lee, M. A., Superior.
Leeson, E. E., Sharon.
Leeson, F. W., Beloit.
Legault, G. A., Hayward.
Lehigh, R. W., De Forest.
Lehnkering, C. F., Darlington.
Leich, F. P., Jackson.
Leicht, Phillip, Lake Mills.
Leitzell, P. W., Benton.
Leland, A. M., Whitewater.
Lemmell, J. J., Albany.
Lemme, G. W., Spooner.
Lemon, Charles H., Milwaukee.
Lenfestey, J. P., De Pere.
Leonard, Charles W., Fond du Lac.
Leonard, W. T., Waupaca.
Lester, Wm. A., Onalaska.
Lettenberger, Jos., Milwaukee.
Levings, A. H., Milwaukee.
Levitas, I. E., Green Bay.
Lewis, James M., Bloomington.
Lewis, W. H., Aniwa.
Lid, T. A., Marinette.
Lincoln, W. S., Dodgeville.
Lindorer, J. D., Stevens Point.
Lindsay, H. E., Whitewater.
Lindsay, W. T., Madison.
Linn, W. N., Oshkosh.
Lipson, John, Kingston.
Little, W. D., Maiden Rock.
Lobedan, E. T., Milwaukee.
Lochemes, W. T., Milwaukee.
Lockhart, Carl, Mellen.
Lockhart, J. W., Oshkosh.
Loevenhart, A. S., Madison.
Lohmiller, R. K., Superior.
Longenfeld, C. F., Theressa.
Longley, L. R., Fond du Lac.
Loofbourow, N. A., Monroe.
Loomis, E. E., Janesville.
Loope, T. E., Jr., Iola.
Looze, John J., Grand Rapids.
Lorenz, W. F., Mendota.
Lathrop, C. A., Sharon.
Lotz Oscar, Milwaukee.
Loughnan, A. J., Oconomowoc.
Love, G. S., Waukesha.
Lowell, A. I., Madison.
Lovesee, E. R., Lindsay.
Ludden, H. D., Mineral Point.
Lueck, Geo. W., La Crosse.
Luehrs, H. E., San Antonio, Texas.
Luhman, F. S., Manitowoc.
Lumley, W. A., Ellsworth.
Lumsden, William, Clayton.
Lumsford, C. B., Gays Mills.
Lundmark, L. M., Ladysmith.
Lyman, J. V. R., Eau Claire.
Lynch, D. W., Jr., West Bend.
Lynch, H. M., Allenton.
Lyons, J. A., Welcome.
Lyons, William, Eden.
Mack, J. A., Madison.
Mackechnie, R. S., Hillsboro.
Madison, James D., Milwaukee.
Maechtle, E. W., West Allis.
Maes, C. G., Kimberly.
Malloy, Thomas E., Random Lake.
Malone, James F., West Allis.
Malone, Thomas C., Milwaukee.
Malone, W. F., Milwaukee.
Marble, I. V., Butternut.
Marchessault, J. A., Ashland.
Markson, S. M., Milwaukee.
Marquardt, C. H., La Crosse.
Marquis, A. J., Wausaukee.
Marsden, A. L., Rio.
Marsden, T. H., Fennimore.
Marsh, J. M., Elkhorn.
Marshall, J. F., Appleton.
Martin, George, Baldwin.
Martin, M. T., Merrimac.
Martins, Wm. A., New Holstein.
Mason, C. H., Superior.
Mason, E. L., Eau Claire.
Mason, George F., Milwaukee.
Mason, J. B., Marshfield.
Masterson, J. A., Watertown.
Matheison, John, Eau Claire.
Matheson, A., Neillsville.
Mathews, J. B., Milwaukee.
Matter, F. E., Pasadena, Cal.
Mauerman, J. F., Monroe.
Maurer, A. A., La Crosse.
Maurer, H. C., Beloit.
Maxam, M., Stetsonville.
May, J. V., Marinette.
McArthur, D. S., La Crosse.
McBeath, H. F., Milwaukee.
McBeath, N. E., Livingston.
McBride, W. O., Fort Wayne, Ind.
McCabe, H., Milwaukee.
McCallin, A. E., Waupaca.
McCarthy, G. W., North Prairie.
McCarthy, H. C., Richland Center.
McChesney, Willard, Edgerton.
McClure, G. H., Westboro.
McCollistee, G. H., Avoca.
McCollum, C. L. R., Forrest Junction.
McComb, I. N., Brillion.
McCorkle, S. C., Milwaukee.
McCormick, H., New Auburn.
McCracken, J. O., Kenosha.
McCracken, R. W., Union Grove.
McCutcheon, W. R., Thorp.
McDill, John R., Milwaukee.
McDonald, E. M., Beaver Dam.
McDonald, Ed., Cuba City.
McDonald, W., Lake Geneva.
McDougall, G. T., Fond du Lac.
McDowell, A. J., Soldiers Grove.
McGauley, Frank, Fond du Lac.
McGill, Patrick G., Superior.
McGovern, John, Patosi.
McGovern, John J., Milwaukee.
McGovern, J. E., Highland.
McGovern, Patrick H., Milwaukee.
McGrath, F. C., Wrightstown.
McGuire, W. H., Janesville.
McHugh, Francis T., Chippewa Falls.
McIndoe, T. R., Rhinelander.
McKechnie, Wilfred, Kennan.
McKee, F. W., Richland Center.
McKellar, A., Blanchardville.
McKeon, Phillip, New Richmond.
McKivitt, William, Milwaukee.
McKnight, G. B., Fond du Lac.
McLachlan, W. G., McFarland.
McLaughlin, J. H., Glen Haven.
McMahon, J. P., Milwaukee.
McMillan, A. F., Stevens Point.
McRae, J. D., Chippewa Falls.
McRae, Murdock, Milwaukee.
McShane, J. J., Kenosha.
Meachem, J. G., Racine.
Meacher, Byron, Portage.
Mead, Frank, Madison.
Meanwell, W. H., Madison.
Meany, John F., Manitowoc.
Mears, G. V., Fond du Lac.
Mecum, J. B., Bagley.
Melaas, Wilbur G., Beloit.
Mensing, F. H., Milwaukee.
Merrill, W. G., Grand Rapids.
Mertens, H. G., Bayfield.
Messman, Hugo, Milwaukee.
Messmer, Clemens, Milwaukee.
Meusel, H. H., Oshkosh.
Meyer, R. C., Elkhart Lake.
Meyers, C. E., Milladore.
Meyst, Charles, Burlington.
Middleton, W. R., Madison.
Midtfart, Christian, Eau Claire.
Midgley, A. F., Whitewater.
Miesling, F. A., Milwaukee.
Millie, H. H., Marshfield.
Miller, C. J., Whitewater.
Miller, E. A., Clintonville.
Miller, E. W., Milwaukee.
Miller, H. C., Whitewater.
Miller, Thomas, Oconomowoc.
Miller, W. P., Milwaukee.
Miller, W. J., La Valle.
Miller, W. S., Madison.
Mills, James, Janesville.
Mills, Norman P., Appleton.
Minahan, John P., Green Bay.
Minahan, P. R., Fond du Lac.
Minahan, Robert E., Green Bay.
Minshall, A. P., Viroqua.
Mishoff, Ivan D., Milwaukee.
Mitchell, E. J., Brodhead.
Mitchell, R. E., Eau Claire.
Mix, H. C., Green Bay.
Mock, F. C., Milwaukee.
Moffatt, Henry R., Poysippi.
Mollinger, S. M., Milwaukee.
Monk, R. W., Neillsville.
Monroe, William B., Monroe.
Monsted, J. W., New London.
Montgomery, Alex., Eau Claire.
Montgomery, William, Eau Claire.
Moore, Clara, Madison.
Moore, E. E., Merrilan.
Moore, G. W., Antigo.
Moore, L. A., Monroe.
Moore, W. N., Appleton.
Moreauc, F., Luxembourg.
Morgan, J. J., Durand.
Morgenroth, H. W., Oshkosh.
Mork, Ole, Blair.
Morris, E. K., Merrill.
Morse, A. J., Oakfield.
Morse, E. A., Appleton.
Morrison, W. W., Edgerton.
Morrison, M., Cashton.
Morris, Sara, Madison.
Morris, R. C., Ft. Atkinson.
Morley, F. E., Viroqua.
Mottenson, O. N., Waupaca.
Moulding, F. C., Watertown.
Moyer, Samuel R., Monroe.
Muenzner, R. C., Milwaukee.
Mulford, E. R., La Crosse.
Mulholland, John F., Kenosha.
Munkwitz, F. H., Milwaukee.
Munn, W. A., Janesville.
Munger, D. C., Ellsworth
Munro, Sarah R., Milwaukee.
Munroe, D. M., Kenosha
Murdock, J. A. Columbus.
Murphy, E. R., Rhinelander.
Murphy, George F., Junction City.
Murphy, S. W., Kenosha.
Murphy, W. J., Milwaukee.
Murphy, W. T., Waukesha.
Murray, F. O., Tomah.
Muth, Carl, Sheboygan.
Myers, Albert William, Milwaukee.
Myers, Charles F., Chippewa Falls.
Nadeau, A. T., Marinette.
Nahin, H. L., Milwaukee.
Nair, B. P., Winnebago.
Nauth, D. F., Kiel.
Nedry, H. M., Medford.
Nelson, A. L., Racine.
Nelson, C. A., Clear Lake.
Nelson, Norman, Madison.
Nelson, William V., Milwaukee.
Newell, Frank, Racine.
Nicolayson, N. H., Eau Claire.
Nichols, F. C., Wausau
Nichols, R. M., Sheboygan Falls.
Nichols, Willard T., Milwaukee.
Nicholson, J. D., Milltown.
Nielson, G. W., Milwaukee.
Nielson, W. H., Milwaukee.
Niemann, A. C., New Holstein.
Nims, C. H., Oshkosh.
Nixon, A. J. W., Delafield.
Nixon, Henry C. B., Hartland.
Nixon, R. T. A., Brookfield.
Noble, Joseph B., Waukesha.
Noer, Julius, Stoughton.
Noer, J. P., Wabeno.
Nolan, W. N., Kaukauna.
Nolte, Lewis G., Milwaukee.
North, Charles F., Beaver Dam.
Nothohm, William R., Dousman.
Nott, Wallace G., Racine
Nowack, L. W., Watertown.
Noyes, G. B., Stone Lake.
Nussle, Albert C., Chippewa Falls.
Nutt, C. B., Plymouth
Nuzum, Thomas W., Janesville.
Nuzum, W. F., Baraboo.
Nye, F. T., Beloit
Nystrum, C. F., Medford.
Oakland, H. G., Milwaukee.
Oberempt, R., Milwaukee.
Oberlin, Emily, Oshkosh
Obertin, C. A., Union Grove.
O'Brien, H. J., Superior.
O'Brien, H. N., Darien.
O'Brien, J. M., Oregon
O'Brien, Thomas, St. Nazianz.
O'Brien, W. T., Ashland
O'Connell, D. C., Milwaukee.
O'Connell, J., Watertown.

O'Connell, J. E., Milwaukee.
O'Connor, W. F., Ladysmith.
Odell, L. E., Wilson.
Oettiker, James, Platteville.
Ogden, H. V., Milwaukee.
O'Leary, F. J., East Troy.
O'Leary, T. J., Superior.
Olmsted, A. O., Green Bay.
Oliver, F. J., Green Bay.
Olson, A. K., Ettrick.
Olson, E. A., Osseo.
Olson, M. I., Madison.
Omsted, Nils, Stoughton.
Orchard, H. J., Superior.
Orr, E. D., Mt. Hope.
Orton, Susanne, Darlington.
Overbaugh, J. H., Hartland.
Owens, Wm. H., Milwaukee.
Oyen, Martin, Ellsworth.
Ozanne, I. E., Neenah.
Ozanne, J. T., Oshkosh.
Palm, C. A., Kenosha.
Palmer, C. W., Cassville.
Palmer, J. A., Arcadia.
Palmer, W. H., Janesville.
Palt, J. N., Kenosha.
Panetti, E. J., Milwaukee.
Panetti, P. A., Hustisford.
Parham, G. H., Necedah.
Park, W. H., Glenwood City.
Parke, George, Sylvan.
Parke, W. B., Camp Douglas.
Parker, Albert S., Clinton.
Parkhill, F. G., Delavan.
Parmley, J. P., Mineral Point.
Partridge, O. F., Mattoon.
Patek, Arthur J., Milwaukee.
Payne, A. L., Eau Claire.
Peairs, Ralph R., Milwaukee.
Peake, Edgar, Oshkosh.
Pearson, C. M., Ogema.
Pease, W. A., Otsego.
Pease, Wm. A., Jr., Rio.
Peck, W. W., Darlington.
Peebles, Mary, Shullsburg.
Pehn, Fred G., Corliss.
Pelton, L. H., Waupaca.
Pember, John F., Janesville.
Pembleton, W. E., Wittenberg.
Pennoyer, N. A., Kenosha.
Perrin, Geo. H., Menominee Falls.
Perrin, H. E., Star Prairie.
Perry, Genitz, Amery.
Peter, H. T., Oconomowoc.
Peterson, C. E., Independence.
Peterson, Geo. E., Waukesha.
Peterson, N. A., Soldiers Grove.
Petzki, E. A., Hixton.
Pfeiffer, C. W., Sheboygan Falls.
Pfeifer, F. J., New London.
Pfeiffer, H., Jackson.
Pfeil, R. C., Mattoon.
Pfister, Franz, Milwaukee.
Pflueger, J. H., Jolman.
Phaneuf, S. J., Sommerset.
Phelps, E. J., Eldron.
Phillips, T. C., Milwaukee.
Pickering, Charles R., Muscoda.
Pierce, George, Madison.
Pierce, W. J., Dodgeville.
Pinkerton, Wm. T., Prairie du Chien.
Pitts, G. E., Mount Horeb.
Plumblee, R. S., Brooklyn.
Pogue, M. E., Lake Geneva.
Pomainville, Frank, Grand Rapids.
Pomainville, George, Nekoosa.
Pope, F. J., Racine.
Pope, F. W., Racine.
Poppe, Alfred, Arkdale.
Poppe, H. B. B., Wautoma.
Popper, Hugo, Boscobel.
Poser, Edward M., Columbus.
Post, C. C., Barron.
Potter, I. Y., New London.
Potter, Luther A., Superior.
Potter, R. P., Marshfield.
Powers, F. H.
Powers, J. W., Burlington.
Powers, Robert W., Wauwatosa.
Pratt, Maud, Appleton.
Prees, G. W., Cambria.
Pretts, W. W., Platteville.
Prill, H. F., Augusta.
Prince, L. H., Madison.
Pritchard, F. N., Hackley.
Pritchard, J. F., Manitowoc.
Proctor, Thomas C., Sturgeon Bay.
Prouty, W. R., Burlington.
Provost, A. J., Oshkosh.
Puchner, E., Lewiston, Idaho.
Pugh, George H., Kenosha.
Pugh, W. M., Kenosha.
Pullen, A. J., North Fond du Lac.
Puls, A. J., Milwaukee.
Purcell, F. J., Milwaukee.
Purcell, H. E., Madison.
Purdy, A. H., Milwaukee.
Purtell, E. J., Milwaukee.
Purtell, Jos. A., Milwaukee.
Quade, E. B., Wausau.
Quam, Jacob, Deerfield.
Quick, E. W., Milwaukee.
Quin, J. F., Milwaukee.
Raasoch, H., Nelsonville.
Racek, G. H., Princeton.
Ragan, J. F., Gresham.
Ragan, W. F., Neopit.
Ragan, W. J., Gresham.
Randall, A. J., Kenosha.
Rasmussen, Hans, Milwaukee.
Rath, R. R., Granton.
Rathbun, John W., Prairie du Chien.
Rothert, E. T., Chilton.
Ravenel, M. P., Madison.
Ravn, M., Merrill.
Raymond, R. G., Brownsville.
Read, Flora A., Fond du Lac.
Reagles, Robert, Arlington.
Rector, A. E., Appleton.
Redelings, Theo. J., Marinette.
Reed, W. W., Jefferson.
Reeve, James S., Appleton.
Reeves, J. L., Superior.
Reeves, S. T., Albany.
Regen, Eugene D., Milwaukee.
Rehorst, J. J., Fond du Lac.
Reich, H. C., Sheboygan.
Reich, William F., Milwaukee.
Reichert, J. E., West Bend.
Reineck, C., Appleton.
Reineking, H., Milwaukee.
Reineking, W. C.
Reinert, E. N., Cleveland.
Reinhard, C., Milwaukee.
Reinhardt, J. P., Fountain City.
Reynolds, J. C., Lake Geneva.
Rice, D. B.
Rice, D. S., Stevens Point.
Rice, E. M., Kewaunee.
Rice, F. A., Delavan.
Rice, M. H., Eagle River.
Rice, Ray H., Delavan.
Rice, R. H., Milwaukee.
Richards, C. A., Rhinelander.
Richards, C. B., Waldo.
Richman, S. H., Racine.
Richmond, James, Loyal.
Riddle, Julia, Oshkosh.
Rideout, M. E., Hortonville.
Ridgeman, A. L., Grand Rapids.
Ridgway, E. T., Elkhorn.
Riehl, Fred W., Milwaukee.
Riley, E. A., Park Falls.
Riley, P. E., Elk Mound.
Riordan, J. F., Berlin.
Reinhart, D. B., Merrill.
Rice, D. B., Fayette.
Ries, T. O., Luck.
Rinehart, W. F., Ashland.
Ringo, H. F., Montreal.
Rinker, F. C., Madison.
Ripley, G. H., Kenosha.
Ritchie, G. G., Appleton.
Roberts, John, Portage.
Roberts, J. A., Manitowoc.
Robinson, H. A., Kenosha.
Roby, H. S., Milwaukee.
Rock, John N., Milwaukee.
Rodermund, A. M., Athens.
Rodman, A. J., Delavan.
Rogers, A. C., Cascade.
Rogers, A. W., Oconomowoc.
Rogers, E. H., Stevens Point.
Rogers, Phillip F., Milwaukee.
Rolfs, T. H., Milwaukee.
Rood, John F., Darien.
Roos, A., Forest Park, Ill.
Rose, Felix, Coleman.
Rose, J. F., Lena.
Rosenberry, A. B., Wausau.
Rosenheimer, Max, Milwaukee.
Rosholt, H., La Crosse.
Ross, H. R. T., Ladysmith.
Ross, J. M., Bloom City.
Ross, P. M., Granton.
Rostad, K. T., Spring Valley.
Rothman, L., Wittenberg.
Rouse, H. A., Browntown.
Rowles, J. A., La Crosse.
Rowley, A. G., Middleton.
Roy, Emil, Wausau.
Ruekle, William, Grand Rapids.
Rugh, R. E., Racine.
Ruhland, Geo. C., Milwaukee.
Rupp, Paul, Milwaukee.
Ruschaupt, L. F., Milwaukee.
Russell, F. G., Milwaukee.
Russell, F. H., Omro.
Russell, H. C., Milwaukee.
Russell, T. P., Oshkosh.
Ruthin, K. A., Ridgeland.
Ryan, C. E., Appleton.
Ryan, E. S., Oshkosh.
Sallreiter, W. P., Racine.
Salter, H. G., Cascade.
Sanborn, M. J., Appleton.
Sanford, A. H., Rochester, Minn.
Sapper, O. L., Mayville.
Sarazin, F. C., Superior.
Sarles, W. T., Sparta.
Sattre, O. M., Rice Lake.
Sauerhering, D., Wausau.
Saunders, George, Superior.
Sauthoff, August, Madison.
Sauthoff, Mary, Mendota.
Sayle, R. G., Milwaukee.
Sayles, L. W., Baraboo.
Saylor, Herbert, Merrill.
Shafferzink, Charles, White Sulphur Springs, Mont.
Schallern, Bruno, Ripon.
Schallern, Ottmar, Ripon.
Schaper, Herman, Appleton.
Schapiro, Louis, Milwaukee.
Schee, J., Westby.
Scheer, G. H., Sheboygan.
Scheib, G. F., Fond du Lac.
Scheid, M. M., Rosendale.
Schein, J. E., Oshkosh.
Scheurich, L. G., Tomah.
Schell, Ida L., Milwaukee.
Schiller, Leopold, Milwaukee.
Schlegel, H. J., Wausau.
Schleuter, Urban, Grand Marsh.
Schmeling, A. F., Columbus.
Schmidt, Anthony, Beloit.
Schmidt, E. S., Green Bay.
Schmidt, J. A., Brillion.
Schmidt, Philip, Milwaukee.
Schmit, Felix, Milwaukee.
Schmitt, Gustav, Milwaukee.
Schmitt, Louis, Milwaukee.
Schmitz, W. C., School Hill.
Schneider, Fred, New London.
Schneider, John F., Oshkosh.
Schneider, Joseph, Milwaukee.
Schnell, W. H., Superior.
Schockley, H., Lamont.
Schoen, C. M., Milwaukee.
Schoen, R. E., Beaver Dam.
Scholz, G. M., Milwaukee.
Schoofe, J. J., Johnsburg.
Schreiner, J. K., Westby.
Schroeckenstein, R. S., Marion.
Schroeder, H. F., Marinette.
Schulz, F. M., Wauwatosa.
Schung, Max, Bonduel.
Schuster, B. L., Boston, Mass.
Schwalbach, C. G., Juneau.
Schwarz, S. G., Humbird.
Schweitzer, G. J., St. Cloud.
Schwenderer, John, Milwaukee.
Scollard, John T., Milwaukee.
Scollard, W. J., Milwaukee.
Scott, B. E., Berlin.
Scott, H. E., Argyle.
Scott, J. J., Eau Galle.
Scott, J. R., Appleton.
Scott, William F., Pt. Washington.
Seaman, Gilbert E., Milwaukee.
Seaman, W. O., Eau Claire.
Searle, Don R., Superior.
Sears, Harry B., Beaver Dam.
Seidel, J. G., Warrens.
Seldon, W. B., Thorp.
Sellman, J. J., Milwaukee.
Senn, C. U., Ripon.
Senn, F. C., Oshkosh.
Senn, George, De Pere.
Severson, Selena, Madison.
Shaw, A. O., Ashland.
Shaw, Byron W., Waunakee.
Shearer, A. T., Edgerton.
Shearer, R. D., Milwaukee.
Sheehy, T. J., Tomah.
Shehan, L. B., Superior.
Sheldon, C. S., Madison.
Sheldon, Walter H., Madison.
Shepard, W. A., Seymour.
Sherman, Adin, Winnebago.

Shiek, I. E., Rhinelander.
Shimek, A. J., Manitowoc.
Shimoneck, F., Milwaukee.
Shinnick, Thos. F., Watertown.
Sholdski, Jos., Milwaukee.
Shoykett, F. E., Brandon.
Siegmund, F. W., Princeton.
Sieker, Arthur W., Franklin.
Sifton, Harry A., Milwaukee.
Silverthorn, F. R., Berlin.
Simonson, J., Tomah.
Sincock, H. A., Odanah.
Sizer, E. M., Fall Creek.
Skwor, Charles J., Neosho.
Sleyster, L. R., Waupun.
Smedal, Gregor, La Crosse.
Smieding, George, Mineral Point.
Smiles, C. J., Ashland.
Smith, A. D., Gilmanton.
Smith, C. C., Scandinavia.
Smith, C. E., Beloit.
Smith, C. E., Mukwonago.
Smith, C. M., Jr., Evansville.
Smith, E. A., Milwaukee.
Smith, Geo. Lewis, Jefferson.
Smith, G. M., Eau Claire.
Smith, James F., Wausau.
Smith, K. W., Madison.
Smith, P. H., Racine.
Smith, Sidney, South Milwaukee.
Smith, S. M. B., Wausau.
Smith, T. W., Neenah.
Smith, W. P., Waupun.
Soelberg, Paul A., Denver, Colo.
Soles, F. A., Spencer.
Sommers, Julius, Madison.
Sorenson, Soren, Racine.
Southwick, F. A., Stevens Point.
Spalding, J. B., Kenosha.
Spawn, M. G., Beloit.
Spears, T. R., Washburn.
Specht, John, Superior.
Spencer, G. F., Evansville.
Spencer, Leonard, Wausau.
Sperry, S. P., Milwaukee.
Sperry, Willis P., Phillips.
Spitz, Milton, Milwaukee.
Stack, G. F., Independence.
Stack, Stephen, Milwaukee.
Staehle, M., Manitowoc.
Stalker, H. J., Kenosha.
Stanhope, C. R., Milwaukee.
Stannard, Gilbert H., Sheboygan.
Starnes, Brand, Mauston.
Starr, F. W., Stanley.
Stebbins, E. B., Hurley.
Stebbins, W. W. Verona.
Steele, G. A., Red Granite.
Steele, George M., Oshkosh.
Steffen, I. D., Antigo.
Steffen, S. A., Antigo.
Stephenson, W. L., Ladysmith.
Steusser, C., Oconomowoc.
Stevens, C. C., Niagara.
Stevens, Frank E., Bristol.
Steves, B. J., Menomonie.
Stiles, F. P., Sparta.
Stiles, V. W., Sparta.
Stirn, F. J., West Bend
Stockman, B. G., Woodville.
Stoddard, Charles H., Milwaukee.
Stoelting, C. W., Oconto.
Storey, C. L., Whitehall.
Stoye, J. P., Theressa.
Stratton, F. A., Milwaukee.
Strauss, F. H., Milwaukee.
Stubenvoll, C. E., Shawano.
Studley, F. C., Milwaukee.
Suby, J. I., Stoughton.
Suiter, F. C., La Crosse.
Sullivan, A. G., Madison.
Sure, J. H., Milwaukee.
Surenson, M., Viroqua.
Sutherland, C. H., Janesville.
Sutherland, F. E., Janesville.
Suttle, H. J., Viroqua.
Swadner, ——, Keshena.
Swarthout, E. C., La Crosse.
Sweatman, R. H, Green Bay.
Sweemer, William, Milwaukee.
Sykes, H. D., Milwaukee.
Sykes, L. G., Milwaukee.
Tanner, G. F., Turtle Lake.
Tanner, Herbert B., San Diego, Cal.
Tartar, J. W., Iron River.
Tasche, Conrad T., Sheboygan.
Tasche, John C., Sheboygan.
Tasche, P. G., Ithica.
Taugher, A. J., Milwaukee.
Taugher, J. P., Milwaukee.
Tayler, E. A., Racine.
Taylor, D. A., Bangor.
Taylor, F. B., Mt. Sterling.
Taylor, J. G., Milwaukee.
Taylor, J. R., Madison.
Taylor, L. S., Waupun.
Taylor, M. W., Kilbourn.
Taylor, R. W., Pewaukee.
Teschan, R. C., Milwaukee.
Teschan, R. F., Milwaukee.
Thackery, R. C., Racine.
Thadlic, Joseph, Lime Ridge.
Thayer, C. E., Markesan.
Thayer, F. A., Beloit.
Thewalt, W. B., Poysippi.
Thieke, G. A., Wausau.
Thienhaus, Carl O., Milwaukee.
Thill, D. P., Milwaukee.
Thomas, J. S., Milwaukee.
Thomas, W. O., Clinton.
Thompson, A. S.
Thompson, B. V., Oshkosh.
Thompson, Earl X., Platteville.
Thompson, F. A., Milwaukee.
Thompson, G. E., Kenosha.
Thompson, I. F., Reedsburg.
Thorne, James P., Janesville.
Thorndike, William, Milwaukee.
Thrane, A. D. H., Eau Claire.
Tibbits, N. I., Grand Rapids. Mich.
Tibbits, Ulysses J., Waukesha.
Timm, E. W., Milwaukee.
Tisdale, Lewis C., Milwaukee.
Titel, E. A., Green Leaf.
Todd, Samuel G., Neenah.
Tomkiewicz, Irene G., Milwaukee.
Tompach, Emil, Racine.
Tormey, Thomas, Madison.
Torpy, T. G., Minocqua.
Towne, W. H., Schiocton.
Townsend, E. H., New Lisbon.
Treadwell, C. L., Kilbourn.
Treat, Charles R., Sharon.
Treglown, L. H., Livingston.
Trevitt, Margaret, Wausau.
Trowbridge, Charles, Viroqua.
Trowbridge, W. M., Viroqua.
Tryon, F. E., Windsor.
Tuffley, F. S., Boscobel.
Tupper, E. E., Eau Claire.
Twohig, David J., Fond du Lac.
Twohig, H. E., Fond du Lac.
Uren, Andrew, Montreal.
Urquhart, C. C., Iron Belt.
Van Altena, Louis, Sr., Cedar Grove.
Van Altena, Louis, Jr., Cedar Grove.
Vanderlinde, L. A., Wautoma.
VanDelinder, E. M., Beloit.
Van Kirk, F. W., Janesville.
Van Schiack, R. E., Caroline.
Van Tiger, W. H., Holland, Iowa.
Van Valsah, Robert, Madison.
Van Westrienen, A., Kenosha.
Van Zanten, W., Sheboygan.
Vedder, H. A., Edgar.
Vedder, J. B., Marshfield.
Verbeck, S. F., Lodi.
Vernon, S. G., Madison.
Vogel, C. A., Elroy.
Vogel, Carl C., Elroy.
Voight, A. H., Sheboygan.
Voje, J. H., Oconomowoc.
Von Hengel, G. S. A., Waupun.
Von Neupert, C., Sr., Stevens Point.
Von Neupert, C. Jr., Stevens Point.
Voorus, C. Wesley, Beaver Dam.
Vosburgh, W. H., Cooperstown.
Vosknil, A., Cedar Grove.
Waddle, H. C., Hazel Green.
Wade, Frank S., New Richmond.
Wadey, Bert J., Belleville.
Wafle, G. C., Janesville.
Wagner, K., Milwaukee.
Wahl, C. M., Spring Green.
Wahl, H. J., Richland Center.
Wahl, H. S., Wausau.
Wahle, H., Marshfield.
Wakefield, G. T., West Salem.
Wakefield, S. R., West Salem.
Walbridge, F. E., Stevens Point.
Walbridge, J. S., Berlin.
Waldschmidt, W. J., Fond du Lac.
Walker, F. W., St. Croix Falls.
Walker, L. G., Pound.
Walsh, Charles Chase, Merrill.
Ward John Peter, Waukesha.
Warfield, L. M., Milwaukee.
Was, E., Oostburg.
Washburn, R. G., Milwaukee.
Washburn, Sara, La Valle.
Washburn, W. H., Milwaukee.
Waters, D., Grand Rapids.
Waters, Hugh, Nekoosa.
Watkins, W. C., Oconto.
Watson, Fred V., Antigo.
Weaver, L. A., Medford.
Webb, E. P., Beaver Dam.
Webb, W. B., Beaver Dam.
Weber, A. J., Milwaukee.
Weber, H. F., Newburg.
Webster, B. N., Rice Lake.
Webster, F. E., Amherst.
Wegge, William F., Milwaukee.
Wehle, W. J., West Bend.
Weideman, Wm. G., Milwaukee.
Weingart, F. W., Milwaukee.
Welch, F. B., Janesville.
Welch, F. C., Mukwonago.
Welch, T. R., Rhinelander.
Weld, H. J., Campbellsport.
Wenstrand, D. E., Milwaukee.
Wentzell, W. L., Stoughton.
Wenzel, J. V., Ashland.
Werkmeister, A. M., Reedsburg.
Werner, C. F., Fond du Lac.
Werner, H. C., Fond du Lac.
Werner, Nels, Barron.
Werner, R. F., Eau Claire.
Westgate, H. J., Rhinelander.
Westhofen, R. C., Milwaukee.
Westpahl, H. G., Polar.
Wetzler, S. H., Milwaukee.
Wheeler, C. H. E., Platteville.
Wheeler, W. P., Oshkosh.
White, A. G., Milwaukee.
White, A. S., Rice Lake.
White, Moses I., Wauwatosa.
White, R. M., Prairie du Chien.
Whitehorne, E. E., Vesper.
Whiteside, G. D., Plover.
Whitney, D. C., Rice Lake.
Whyte, William F., Watertown.
Wichman, G. C., Rib Lake.
Wiesender, A. J., Berlin.
Wilcox, A. G., Solon Springs.
Wiley, Frank S., Fond du Lac.
Wilkinson, John A., Hales Corners.
Wilkinson, M. R., Oconomowoc.
Wilkowski, C. W., Chippewa Falls.
Willard, C. J., Wauzeka.
Willard, L. Mortimer, Wausau.
Willett, Thomas, West Allis.
Williams, H. H., Sparta.
Williams, Jesse M., Oshkosh.
Williams, R. L., Milwaukee.
Williams, Stephen, Chippewa Falls.
Williams, W. E., Cambria.
Williamson, Geo. H., Neenah.
Williamson, J. L., Milwaukee.
Wilmarth, A. W., Chippewa Falls.
Wilson, C. J., Marinette.
Wiltrout, I. G., Hudson.
Windesheim, G., Kenosha.
Wing, W. S., Oconomowoc.
Winter, A. E., Tomah.
Wintermute, C. E., Kilbourn.
Witcpalek, W. W., Collins.
Witte, W. C. F., Milwaukee.
Wochos, F. J., Kewaunee.
Wochos, W. W., Kewaunee.
Wolf, H. E., La Crosse.
Wolfgram, O. J., Lyons.
Wolff, Jacob, Milwaukee.
Wolter, H. A., Green Bay.
Wood, F. C., Waupaca.
Woodhead, F. J., Merton.
Woods, E. F., Janesville.
Woodworth, D. N., Ellsworth.
Wright, C. A., Delavan.
Wright, F. R., West Allis.
Wright, J. C., Antigo.
Yanke, A. E., Milwaukee.
Yates, J. L., Milwaukee.
Youmans, L. E., Mukwonago.
Young, A. F., Milwaukee.
Young, G. H., Elkhorn.
Ziegler, E. B. Hayward.
Zierath, W. F., Sheboygan.
Zilisch, William E., Wausau.
Zimmermann, Charles, Milwaukee.
Zimmerman, A., Kenosha.
Zimmerman, W. C., Iron Ridge.
Zinns, A. J., Milwaukee.
Zivnuska J. F., Milwaukee.
Zohlen, John P., Sheboygan.
Zwickey, W. H., Superior.

ABSTRACTS

ETIOLOGICAL, EXPERIMENTAL, AND THERAPEUTIC, CONTRIBUTIONS TO THE KNOWLEDGE OF INTERSTITIAL KERATITIS. Clausen, W., Koenigsberg i. Pr. (From the Eyeclinic of Prof. R. Greeff in the Royal Charité at Berlin. Von Graefe's Archiv. für Ophthalmologie, 83, III., p. 399.) Gives in this elaborate paper a synopsis of literature with regard to the etiology, and the results of Wassermann's reaction on 82 cases of interstitial keratitis observed by him at the clinic, with remarks on Wassermann's reaction and the exact method of its application, which is of the greatest importance. Owing to the fact that different methods have been practiced by the numerous serological institutes it has happened in several cases that not only different results of the examination of the same blood were reported by different institutes, but also by the same investigators who made reactions with blood of the same patient at intervals of a few days. Besides Wassermann's reaction great attention was paid to the anamnesis and the other objective symptoms of hereditary lues which are discussed in detail. Five typical cases of hereditary luetic interstitial keratitis are reported in which C. examined the aqueous, withdrawn with a syringe, for spirochaete with negative results. Then he gives an account of his inoculations of rabbits and pavians resulting in interstitial keratitis after an incubation of from 4 to 8 weeks, with such an abundance of spirochaetae in the corneae as if they had been pure cultures. With E. Hoffmann, C. considers this experimental keratitis produced by inoculation of syphilitic material into the eyes of rabbits as a primary syphiloma of the cornea, which under no circumstances can be placed parallel to the metastatic hematogenous interstitial keratitis in man. This sets in many years after the infection and must rather be ascribed to toxins, not to spirochaetae. C. reports 11 cases in which he found no spirochaetae in pieces of the cornea removed with scalpel and lance-shaped knife. This is further confirmed by the absolutely negative effect of salvarsan on the human interstitial keratitis.

C. thus summorizes his conclusions: I. Interstitial keratitis is caused by lues in 90% of the cases, 80% hereditary, 10% acquired. 2. Acquired lues deserves greater consideration as etiological factor. 3. Wassermann's reaction is positive in about from 80% to 85% of the cases. Only complete inhibition of hemolysis can be considered as positive Wassermann's reaction. Incomplete inhibitions have no diagnostic value. 4. Wassermann's reaction is only a chief symptom but not the symptom of lues. Its positive result in interstitial keratitis has a strengthening differential diagnostic significance, but alone, without other syphilitic symptoms, does not warrant the diagnosis of syphilitic interstitial keratitis. 5. Positive Wassermann's reaction in hereditary luetic interstitial keratitis is very constant and frequently remains so in spite of the most energetic antiluetic treatment, in contrast to acquired lues. This suggests the presence of parasyphilitic noxious matter or toxins in the blood, not of an abundance of spirochaetae as Igersheimer surmises. 7. The aqueous in human keratitis contains no spirochaetae, and its inoculation in rabbits produces no syphilitic changes. 8. In interstitial keratitis no spirochaetae are found in the cornea, Thus it is no luetic, but a socalled metasyphilitic disease, created by toxins circulating in the blood or lesions left from former lues. 9. The spirochaetae, abundantly found in the corneae of the fetuses and newborn children, are irrelevant for the etiology of interstitial keratitis. 10. Interstitial keratitis is due to a disturbance of nutrition of the cornea preceded by perivasculitis and endovasculitis of the marginal loops according to von Michel. 11. Lues and tuberculosis are found in a number of cases of interstitial keratitis. In these generally the chief cause is to be attributed to lues. 12. Next to lues tuberculosis plays the most important part in the etiology of interstitial keratitis. Also here it is more likely the consequence of a disturbance of nutrition by toxins than of an immigration of tubercle bacilli. 13. In a few cases infectious diseases and constitutional anomalies may be etiological, but more accidental, elements. 14. In very rare cases the etiology remains obscure. 15. Salvarsan is no specific for interstitial keratitis, it is without influence on its course, except in the sense of arsenic therapy. 16. In the treatment of interstitial keratitis the most important point is the care for general favorable condition of life by roborating regime. Antiluetic or antituberculous treatment is of secondary consideration. 17. In very dense scars of the whole cornea, subsequent to interstitial keratitis, the attempt of keratoplasty is indicated for visual improvement.

C. ZIMMERMANN.

EXPERIMENTAL AND CLINICAL STUDIES ON THE THERAPEUTIC VALUE OF RADIOACTIVE RAYS IN EYE DISEASES. Flemming, Dr. (From the Eyeclinic of Prof. R. Greef in the Charité at Berlin, von Graefe's Archiv. für Ophthalmologie, 84, II., p. 344), after a brief survey on the application of radium in ophthalmology, describes the method by which he applied radium and mesothorium. It was dissolved by the Radiogen Company and uniformly spread on a piece of linen, where it was converted into the not easily soluble carbonate, dried, imbedded in paraffin, enclosed in aluminum and gutta percha in a frame, whose one side was protected by a layer of lead, 1 mm. thick, the other was left open. Physically equivalent quantities of radium and mesothorium had equal biological effects. After studying the effects on the normal skin these were ascertained experimentally on the normal parts, then on aseptic and infected wounds of the eyeballs of rabbits, before it was used on patients. The normal human eye could be radiated for 4½ hours at intervals and for 2 hours in one sitting with the radium preparation (from 5 to 3 mgr.), 9½ hours at intervals and 45 minutes in one sitting with mesothorium (12 mgr.), without lasting disturbances. Certain deep ulcers of the cornea (marantic) not yielding to other remedies, rapidly healed under radium and with remarkedly slight opacity. Only a few, not all, cases of serpent ulcer were cured by radiation, and no essential improvement was noticed in gonorrhoic ulcer, eczematous

and parenchymatous keratitis, leucoma, sclerosis. Of all normal parts of the eye the iris was most readily influenced by radioactive rays, as the longer lasting contraction of the pupil in the human eye and the eyes of rabbits indicated. In diseases of the iris, however, the pain was relieved, but no objective improvement was observed. Good results were obtained in simple conjunctivitis. In some cases of trachoma the follicles subsided rapidly, in others no amelioration occurred even after several months' treatment. The results in one case of pannus with relapsing intense irritation were very favorable after all other remedies had failed. In the others radiation did not surpass other well established methods in intensity of effect, time, or certainty of results. In tumors (cancroid, sarcoma, melanosarcoma, warts, lupus, angioma, xantelasma), almost always very favorable results were obtained if they did not exceed a certain size. Especially sarcomas of the eyeball, which had surgically been unsuccessfully treated, were entirely removed in some cases, in others made so much smaller, that complete recovery was to be expected. On account of the chief property of radioactive rays to rather destroy the diseased than the healthy tissue, radium and mesothorium treatment will play a not unimportant part particularly in tumors of the eye, where surgical interference is apt to leave disfiguring scars. The clinical histories are given in detail and the experimental and clinical observations on tables.

C. ZIMMERMANN.

TO THE CASUISTICS OF CONGENITAL PTOSIS WITH COLLATERAL HEREDITY. Ginzburg, J., Kiew. (Klin. Mon. für Aug., 51, I., April, 1913, p. 455), reports the history of a family of healthy parents, and several children affected with congenital ptosis. The first child was born healthy, the second had ptosis on one side, the third very markedly on both sides, the fourth moderately on both sides, the fifth was healthy. Heredity could not be proven. The incident literature and the various theories for explaining congenital ptosis from hereditary influences are reviewed.

C. ZIMMERMANN.

RESULTS OF THE TREATMENT OF TUBERCULOSIS OF THE EYE WITH TUBERCULIN. von Hippel, A., Goettingen, (von Graefe's Archiv für Ophthalmologie, 87, p. 193), reports on 243 patients whom he treated in the last 8 years with tuberculin. The more he observed tuberculosis of the eye the more he became convinced that the clinical aspect is much more varied than generally supposed and that especially a number of diseases of the cornea, so far called scrophulous, are closely related to tuberculosis and are cured more rapidly and surely by tuberculin than by any other treatment. The same applies to some diseases of the sclera and episcleral tissue. While the diagnosis of tuberculous affections of the uveal tract is relatively easy, it is often not possible, to recognize tuberculosis of the cornea and sclera merely from the clinical picture. v. H. therefore employed for many years the diagnostic injection of old tuberculin, as recommended by Koch. His method is described, then the clinical pictures of tuberculosis, of which 115 cases were affections of the cornea, with enumeration of clinical histories, appearing as whitish or yellowish grey infiltrations in the intermediate or deep strata, numerous very small infiltrations dispersed over the whole cornea, with or without pannus, obstinate edematous keratitis wth regular participation of the iris, sclerosing keratitis, keratitis of the superficial layers without injection and vascularization commencing from the margin and advancing towards the center without reaching it, and 3 cases of parenchymatous keratitis; 7 cases of tuberculosis of the conjunctiva, 75 of iris and ciliary body, 18 of the chorioid, 1 of the optic nerve. The 2nd decade of life furnished the greatest percentage 47.7%, the 3rd 22.2%, the first and fourth 9.9%.

v. H. used the different kinds of tuberculin, without being able to decide which deserves preference. His method of applying them is described in detail. Out of the 243 patients 184 (75.7%) were cured, 42 (17.3%) improved, 17 (7%) treated without success. Of all tuberculosis of the eye, those of the iris and ciliary body are the most dangerous and showed the most frequent relapses. In 10 out of the 93 cases long continued tuberculin treatment failed. As in sympathetic ophthalmia in tuberculous uveitis operative procedures must be postponed as long as possible.

C. ZIMMERMANN.

TO THE ETIOLOGY OF PHLYCTENULAR OPHTHALMIA. Belensky-Raskin, Mrs., (From the Eyeclinic of Prof. A. Siegrist in the University of Bern. Zeitschrift für Augenheilkunde, 29, June, 1913, p. 503), examined 100 consecutive cases of phlyctenular ophthalmia, in the succession as they entered the clinic, according to von Pirquet and Moro, with regard to tuberculosis. Von Pirquet's test was made in the fashion devised by Prof. Sahli, viz., 6 scratches were made on the upper arm. In the first concentrated tuberculin in the following diluted solutions of 1:10, 1:100, 1:1000, 1:10000 were inoculated, the last one was not inoculated for control. If von Pirquet's reaction was negative it was repeated after a week. Von Pirquet's test also proved more reliable than Moro's. While all cases which were von Pirquet-negative, were also Moro-negative, 7 Moro-negative cases showed a positive von Pirquet's reaction. All cases are arranged in tables. The results were: 1) 92% of the cases of phlyctenular ophthalmia gave positive cutaneous tuberculin reaction, 2) only 85% of the children below 5 years reacted positively. 3) The cases of phlyctenular ophthalmia with negative tuberculin reaction do not justify the assumption, that here the phlyctenular ophthalmia was due to another affection, not to tuberculosis. Also in those negative cases partly certain clinical symptoms of tuberculosis were present. 4) In 30 cases the urine was examined with Jaffe's test for indican, but not in one this could be ascertained. Therefore there is no reason to attribute the phlyctenular ophthalmia to an intestinal autointoxication. 5) In the therapy of phlyctenular ophthalmia, besides the usual local treament, the chief cause, tuberculosis, must be given sufficient attention.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

OSTITIS FIBROSA CYSTICA.*

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In recent years many contributions to the literature of benign tumors of bone and bone cysts have added much to our knowledge of these conditions and changed in many respects the methods employed in their treatment.

Areas of softening and cyst formation were observed and studied by the earlier pathologists and surgeons. However, as late as 1883, Volkman in an exhaustive contribution on this subject, said that cyst formations in the bones of the skeleton outside the jaw were so exceedingly rare that they should be regarded as tumors that had undergone softening or as echinococcus cysts rather than simple cysts of bone. In this paper Volkman refers to the fact that both Dupuytren and Nelaton had described bone cysts with solid and fluid contents, referring especially to multilocular osteocystoid development of the femur described by Nelaton, but preferred to regard these processes as cystosarcoma.

Cyst formation in bone has been observed in many conditions, among which may be mentioned the following:

1. Parasitic cysts due to cysticercus, echinococcus, etc.
2. The product of rarefying processes in bone; such as, arthritis deformans, osteomalacia, senile osteoporosis, etc.
3. The end product of infectious osteomyelitis.
4. The product of softening in genuine tumors of bone; such as, sarcomata, enchondromata, etc.
5. The so-called callus cysts.
6. In ostitis or osteomyelitis fibrosa of the type described by Recklinghausen and the so-called Paget's disease of bone.
7. Genuine bone cysts, by which is meant, fluid-containing cavities in bone which do not belong to any of the preceding groups.

With a multiplicity of conditions giving rise to areas of softening and cyst formation in bone, the definition of a true bone cyst seems very difficult. In fact, one author remarks that it is easier to tell what a bone cyst is not, than to tell what it is. Some authors have attempted to maintain a distinction between the cavities in bone filled with fibrous tissue of apparent inflammatory origin, the condition described as ostitis fibrosa and the so-called true bone cysts, having fluid contents. Others have described the two conditions together, regarding them as being different stages in the development of the same process.

These cysts generally occur in unilocular, smooth-walled areas filled by brownish or yellowish white gelatinous material, often colored by blood pigment to a greater or less degree. In some of the cases a lining membrane with septa dividing the cavity into smaller compartments has been described. The pigmentation is generally ascribed to hemorrhage into the area, not unlike the apoplectic cysts of the brain, following old hemorrhages. They occur most often in young individuals and their location is generally in or near the epiphysis of the bone. The long bones seem the ones most frequently involved, although cases involving almost all the bones of the skeleton have been described. The tendency to occur in several bones of the same individual has also been noted on numerous occasions, the process frequently involving adjoining or contiguous bones of the same individual.

The differentiation between the cysts of this group and those of parasitic origin is easily made because of the absence in the former of the characteristic parasite, echinococcus, cysticercus, etc., or their products. The cysts resulting from infectious osteomyelitis will be found to contain bacteria, either by culture or staining methods, while the true cysts and those resulting from the process described as ostitis fibrosa are always sterile. The cysts resulting from senile osteoporosis are generally of small size and occur in persons of ad-

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 1, 1913.

vanced age, while the true cysts may attain considerable size and as before stated are essentially a disease of early life.

The cysts resulting from infantile scurvy are generally easily differentiated because of their association with the characteristic general condition and the so-called callus cysts, by their occurrence parosteal at the site of callus formation, while the true cysts are endosteal.

The differentiation from cyst forming tumors, such as sarcoma, and enchondroma may present more difficulty. The cysts occurring in tumors seem to be the end product of the tumor process and the presence of cartilage cells or sarcoma cells

Fig. I.

X-ray plate of lower jaw showing thin bony wall of cyst and tooth lying at the bottom.

in the cyst wall would determine such a cyst as one of secondary origin rather than a true bone cyst. Sarcomata of considerable size may undergo extensive softening and degeneration, leaving very little of the characteristic tumor tissue, as is shown by the cases of bone cyst resulting from degeneration of sarcoma as reported by König in 1906. In three cases König describes a granulation layer lining the cavity in which giant cells were demonstrable instead of the thin smooth membrane lining the cavity of true cysts.

Virchow's opinion from his studies of these cases seems to have been that all central cysts of bone were the result of degenerative processes in tumors, sarcomata, enchondromata,—even when the characteristic tumor cells were not to be found in the wall of the cysts. More recent investigation, particularly those of Mönckeberg, and others, seem to have established the development of true bone cysts and ostitis fibrosa as an inflammatory process rather than the degeneration of a new growth in the bone.

Mikulicz pointed out that the process is essentially associated with the growing period; that the long bones were more often involved; and that in the majority of the cases, an initial trauma sustained perhaps months or years before, seemed to play an important role. The fact that many of these cases after treatment by the simplest procedures, such as, simple incision and packing, curetting, etc., have shown no signs of recurrence seems to lend weight to the view that they are of inflammatory rather than of tumor origin. The further fact that fractures in bones at the site of cysts heal promptly when immobilized, would seem to speak against their origin from a new growth.

The question of the relation of ostitis fibrosa to cyst formation seems unsettled. Recklinghausen's original description of the condition described by him as ostitis fibrosa concerned a process of wide distribution throughout the skeleton, a so-called nonpuerperal osteomalacia. In this process he described fibrous areas, cyst formation, and areas of giant-celled sarcoma combined in the most irregular manner. The fibrous areas occurred in the medulla of the long bones and resembled a connective tissue transformation of the medullary substance, due to an inflammatory process. The medulla in such places was described as being remarkably poor in cells, but rich in fibrous tissue elements, so that in some areas, masses resembling fibromata were described. In some areas fresh and old hemorrhages with formation of cysts were described, some of the cysts being without a definite membrane and filled in some cases with brown and in others with quite clear serous fluid, not unlike the so-called apoplectic cysts of the brain.

Although the original description of "ostitis fibrosa osteoplastica" as given by Recklinghausen, concerned a general process involving the entire osseous system and belonging to adult life, the same condition has been found as a localized process in young individuals by Bruun and others. In some of these cases an ostitis fibrosa without cyst formation has been observed, involving a

single bone, while in others a generalized fibrous ostitis without cyst formation has been described.

It seems, therefore, that the histological relation of bone cysts, the process described as ostitis fibrosa, and certain forms of relatively benign tumors of bone, is not as yet definitely determined. Probably cysts are to be regarded as the end products of both inflammatory processes of local and general character, as well as the result of certain degenerative processes in certain new growths of bone. As to whether cysts occur in bone not previously the seat of one or the other of these processes seems as yet undetermined. There are a few clinical facts that stand out as fairly well defined which we may mention:

1. The age of onset: Bone cysts and ostitis fibrosa are, as pointed out by Bloodgood, a disease of the youthful individual, the majority of cases developing before the twentieth year.

2. Duration of the process: The process is generally of slow development, not characterized by pain and disability, the patient seeking medical advice because of the deformity or because of the occurrence of fracture at the site of a cyst. Fracture, deformity and pain in order named are, therefore, the symptoms of importance that bring the patient to seek medical advice.

3. Treatment: The simplest possible treatment should be resorted to. Fracture should be treated like fracture of normal bones, union generally resulting. Some of the cysts appear to have healed by tapping and injecting iodoform-glycerine emulsion, alcohol, carbolic acid, etc.; others by incison and drainage with gauze. The best results have apparently been obtained by incision and curetting without any attempt at filling the cavity by any foreign substance. Once the cyst contents are evacuated, the cavity tends to fill by granulation from the bony wall and from the surrounding soft parts.

In this connection I wish briefly to recapitulate a case which apparently belongs to the condition indicated by the title of this paper:

Emma K., aged 20, sought medical advice on account of an enlargement of the left side of the lower jaw. This swelling had been noticed some years before, the exact time it was first observed being rather difficult to ascertain. At any rate, about two years previously she had had a premolar tooth drawn, the dentist evidently thinking the trouble was an alveolar abscess of dental origin. The swelling persisted and some time later, under local anesthesia, the dentist with the assistance of a physician attempted to remove some necrotic bone which was supposed to lie at the bottom of the fistula, which persisted after the tooth was drawn. This attempt also was apparently unsuccessful as the condition continued to develop. When seen in November, 1912, she showed a considerable deformity of the face due to the bulging of the left side of the lower jaw. Inside the mouth a mass could be seen which involved the left side of the lower jaw, expanding the bone in both inward and outward direction. The mass was firm and smooth on palpation, no crackling or fluctuation being obtained. The mucous membrane was everywhere smooth and intact. The canine and both premolars of the left side were absent. The X-ray showed a large mass consisting of a central soft area, surrounded by a thin shell of compact bone at the bottom of which a fully developed tooth could be seen.

The condition was thought to be a dentigerous cyst and operation advised, to which she consented. Dec. 8, 1912, under ether anesthesia, an intra-oral incision over the alveolar process below the teeth was made. The mucous membrane and periosteum were pushed back readily, revealing a smooth whitish surface of bone. The bony wall was chiseled away over a small area and a cavity filled with a homogeneous, gelatinous, semisolid material was found. This material was easily curetted away, leaving a smooth whitish shell of bone. The entire outside wall was chiseled away, the cavity curetted and rubbed with dry gauze until the wall of the cavity was everywhere smooth and clean. The tooth shown in the X-ray was found lying free in the mucoid mass at the bottom of the cavity, showing that the process probably had its origin before the eruption of the permanent teeth took place. The cavity was packed with gauze and allowed to heal by granulation. In February, 1913, a considerable cavity still remaining, the inner wall was cut through transversely and a flap of bone with periosteum attached, was turned over into the cavity. This flap served a useful purpose for attachment of bridgework by a dentist, who very skilfully fitted the defect. Up to this time there has been no recurrence of the process and the face, after applying the bridge, presents an almost normal outline.

Some of the tissue removed was submitted to Dr. C. H. Bunting of Madison for examination, who reports as follows: "The specimen from the

jaw—Miss K.—consists of mucoid connective tissue, apparently inflammatory; no evidence of tumor formation, so probably the condition was one of bone cyst of inflammatory origin." In another communication he reports, "I think I can assure you the growth is not a sarcoma. In fact I doubt that the tissue represents a new growth. It appears to be oedematous granulation tissue, which has grown in to organize some exudate or necrotic tissue—is composed of typical fibroblasts

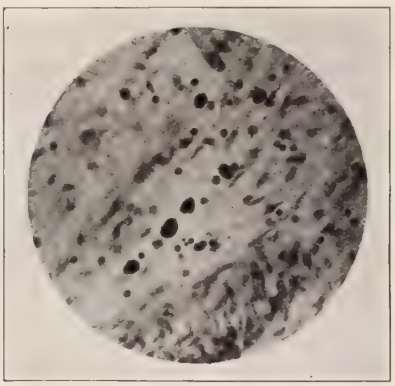

Fig. II.

Photomicrograph from section of tissue removed from cyst, magnified 400 times.

with intracellular fibres and an albuminous or mucoid matrix. Other cells characteristic of inflammatory tissue are present."

In conclusion, I wish to emphasize the value of the conservative treatment of this condition as advocated by Bloodgood and others in the more recent articles on this subject.

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DISCUSSION.

Dr. Evans: Mr. President, to me this is a very interesting and valuable paper. Few of us see many cases of bone cyst, and because of that fact the case is open to a wrong diagnosis and an improper treatment. A bone cyst may be looked upon as a benign tumor as far as treatment is concerned. I do not feel that a diagnosis can be made between a benign and a malignant tumor of a bone until an exploratory incision has been made, and this should be made in every case before a radical operation is done. The X-ray is of great value in differentiating between a benign and a malignant growth, but it is not positive. For instance, a malignant sarcoma, before it has invaded the periosteum or the soft tissues, cannot be differentiated by the X-ray from a bone cyst, nor can a giant cell sarcoma, which, according to Bloodgood, comes under the head of benign tumor, be differentiated from a malignant tumor after the giant cell sarcoma has gone through the periosteum and invaded the soft tissues. And this is important, if as Bloodgood says, it is true that even after a giant cell sarcoma has gone through the periosteum and infiltrated the soft tissues, it can still be looked upon as a benign tumor. There is one thing: benign cysts, as a rule, do not involve the soft structures. They do not cause any periosteal inflammation, and as to trauma, trauma is quite often not the etiological factor, but it is the factor that calls the attention of the patient to the fact that he has something wrong. I would like to present two cases here, one a cyst of the humerus in a man 30 years of age, who came under the service of Dr. Sifton. We operated on this man 2 years ago to-day. 7 months before that he began to feel pain in the lower end of his humerus. It became so bad that it incapacitated him from work, and after getting various treatments for rheumatism and so on, we saw him and had a skiagram taken, which showed this condition (illustrating). This was operated on with a constrictor. A constrictor should always be used in these cases. We curetted it thoroughly, used carbolic acid and alcohol, and packed. As soon as possible the packing was removed and the sinus was injected with Beck's paste. A picture was taken a few months after, which shows a cavity the size of a dime, while this is perhaps the size of a lemon, and now the man is absolutely well. I saw him September 16th; he is back at work with absolutely no disability or deformity. There was no history of trauma in this case.

The other case of the lower tibia, is a girl, age 11, which came under my observation. She was operated on August 13th, 1912. 9 months before the operation she fell on her leg, was carried home, and could not walk for a week, she had pain for 3 weeks, and then was absolutely well as far as she knew. One month before the operation, while swimming, she developed a sudden pain in the lower end of the leg, with swelling, and when she came to see us, she was walking with a marked limp. That showed this condition, which we diagnosed a giant cell sarcoma in the lower end of the tibia. This was curetted and carbolized and alcohol used, and because of the fact that there is, as a rule, a lot of bleeding after this, gauze was packed in with a chisel and hammer; in spite of that it soaked through three reinforcements of dressing. As soon as the packing could be removed I did what I really ought not to have done; I injected Beck's paste, thinking of course it would not heal up, but it healed up with that unabsorbable Beck's paste in that bone cavity. This picture was taken some months afterwards, which shows a cavity one-third the size of the original one, and since then another picture has been taken which shows the cavity not much larger than a pea. Because of the absence of the Roentgenologist from the city, I was unable to get it. This girl is back in school, is absolutely well, and has no deformity or disability. According to the pathologist the first

case was a pure myxoma, a very rare condition. This last case is related to the osteitis fibrosa cystica because it had connective tissue lining the wall, but it contained a thin reddish-brown fluid; not hemorrhagic because there was no blood, neither blood clots; just a thin reddish-brown fluid.

DR. GAENSLEN: Mr. President, I had the pleasure of seeing a case of this kind operated upon by Dr. Bloodgood about 3 or 4 months ago. The patient was a boy about 18 years old, who had in the upper end of his tibia a considerable swelling which was tender on pressure. In dissecting the skin flaps from the bone the knife penetrated the thin layer of the periosteum and a clear straw-colored fluid was evacuated. In discussing the pathology of these cases Dr. Bloodgood said that the so-called giant cell sarcomas represented the earlier stage of these bone cysts and that it is important to recognize that the presence of giant cells does not mean a malignant growth. Barry, in the Practitioner some six months ago, described the condition under the name of "Chronic, hemorrhagic, non-suppurative osteomyelitis". He believes the lesion is due to an initial trauma followed by a mild infection, so mild as not to cause the acute symptoms which we ordinarily associate with bone infection, and that the reparative changes go hand in hand with the destructive changes, also that the giant cells which are seen are really functioning as phagocytes, carrying away the dead material, and should not be considered as actual tumor cells. The fact that these tumors are not malignant and that they precede the cystic condition in bones is the important one I think which has been brought out by the paper and by the discussion.

DR. FEDERSPIEL: I wish to rise to the subject of diagnosis. When we are to consider growths or so-called swellings in and about the lower jaw it is of great importance to consider the many dental etiological factors that produce conditions as described by the essayist. To my mind I do not think that this was a case of Osteitis Fibrosa Cystica. I believe it to be a Dentigerous Cyst.

We know that the teeth are frequently deflected from the normal path of eruption. We know that this is largely due to early loss of the baby teeth. For instance, early loss of the deciduous cuspid will permit the forward movement of the posterior teeth, thus producing a contracted arch. This usually deflects the permanent cuspid (which erupts at 13 years of age) from its normal path. Or it ofttimes remains deeply imbedded within the jaw as is shown in the X-ray of this case.

If a section of a jaw be made so as to include a tooth unerupted it will be noticed that the tooth is surrounded by a membrane and that both tooth and membrane are completely enclosed in a capsule of bone. The membrane is adherent to the root of the tooth, but is slightly separated from the enamel. In this small space fluid sometimes collects, should the fluid become excessive the walls of the bony capsule will gradually expand and a dentigerous cyst will be formed. Should the follicular wall undergo hypertrophy the mass will be of a fibrous character. Should this mass become infected from a diseased tooth the condition may result in a thickened granuloma mass.

DR. THIENHAUS: I fully agree with the remarks made by the last speaker. There seems to me some confusion existing in regard to the cysts of the jaw. We must differentiate between three different forms of cysts: first, those which originate from the root of a tooth and are usually of inflammatory origin; second, that class of cysts which Dr. Federspiel has mentioned, and which one calls alveolar cysts. These cysts have almost always a connection with a wisdom tooth. These two forms of cysts can be removed easily by opening them by way of the mouth, curette and pack them with gauze. Aside from these, there is found in the jaws, a cystoma; this is a tumor containing multilocular cysts, with a pathological tissue between these cysts. If you only scrape out these cysts, and leave the intermediate tissue behind, a recurrence must take place from this pathological tissue. Therefore, in case of cystoma, a radical operation with resection of a part of the jaw, is necessary.

DR. MCDILL: Dr. Smith asked me to relate briefly my experience. I have had about 5 cases of cysts of the jaw, similar to this. There is nothing that I can add to the pathology. I can confirm the usual finding that they are all young people, that they were still in development, they were not suppurative except when they had been infected, had been opened in one case, and they were treated by evacuation and collapse of the walls. Some of them were as thin as eggshells I suppose. They all healed well and left the fibers firm to the ends.

DR. SMITH: (Closing) I think I have nothing to add except what I intended to put in the paper, to emphasize the simplicity of the method of treating these cases. Formerly some very radical operations were done upon these cases; amputation, resection, and other operations, which are entirely unnecessary when we recognize the comparatively benign character of the growth.

Another point in regard to the filling of the cavities, especially in the cases where the cavities are small, I believe it is a mistake to inject any bismuth paste or anything of that sort, or any foreign material. I believe that the hemorrhage could be arrested very readily by simply transplanting a small muscle flap into the cavity and then closing the wound primarily, rather than pack it or inject any foreign substance like bismuth paste. That is true especially in cases where the cavities are small.

THE INTRA-NASAL TREATMENT OF CHRONIC FRONTAL SINUS SUPPURATION.*

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The frontal sinus, an air containing cavity, lined by mucous membrane, lies between the two plates or lamellae of the frontal bone just above the eye

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and is connected with the nose by means of a short, narrow, sometimes tortuous passage, the naso-frontal duct. This terminates in the middle meatus of the nose lateral to the anterior end of the middle turbinate bone. This sinus may suffer all the acute and chronic infections to which the mucous membrane of the nose and other accessory sinuses is subject.

The symptomatology and methods of diagnosis of these conditions will not claim our attention in this paper. They are, in general, very well known. I wish, rather, to pay especial attention to the surgical treatment of chronic suppuration of this sinus.

A few anatomical considerations may not, however, be out of place at this point. The sinus lies between the outer and inner lamellae of the frontal part of the frontal bone. Its size and its shape are very irregular. It may be very high, separating the two plates high up on the forehead. It may extend far out into the zygomatic process. It may be very deep and extend far back into the orbital plate. Although usually one large single chamber it may be divided or subdivided by partitions or semi-partitions arising from its walls, at times even into two or more completely separated chambers each with its own separate outlet.

On the other hand the sinus is often very small and rudimentary and it may indeed be entirely absent. Onodi states that he finds the sinus absent in 5½% of 1200 skulls when examined by X-ray and in 35% when examined by transillumination, and other authors give figures ranging from 2% to 24%. Haike was able to show in patients who had suffered from ozaena from earliest childhood that the sinus was absent or entirely rudimentary in as many as 83% of all the cases.

At any rate, to be certain that a frontal sinus is present in any given case you must be able to demonstrate in a lateral X-ray picture, a cavity separating to some extent, at least, the two plates of the frontal bone. If you cannot do this you are dealing with an anterior ethmoid cell and not a true frontal sinus.

The floor of the frontal sinus is formed laterally by the orbital plate, medially to a large extent by a thick backward projection of bone consisting of the nasal spine of the frontal bone and the frontal process of the superior maxilla. This consists for the most part of spongy bone.

With these considerations of the anatomy of the region before us we can now take up the methods used for the relief of chronic suppuration of the sinus. These can, in general, be divided into two main groups; the external, so-called radical operations, and the intra- or endo-nasal operations.

The radical operations date back to the time of Riedel who in 1898 removed the entire anterior and inferior walls of the sinus. The most universally used radical operation today is, however, that of Killian, who, in 1902, modified the operation of Riedel in that he also removed from an external incision through the eyebrow the anterior and inferior walls of the sinus but left a bridge of bone with its periosteum intact standing between the two, thereby avoiding, to some extent at least, the great deformity produced by the earlier operation. Through this external opening the mucous membrane of the sinus is thoroughly removed with curettes and a broad communication is broken through the anterior ethmoid region into the nose. The external incision is then closed and the sinus drained from the nose.

Before this time practically the only methods used for the relief of frontal sinus suppuration were conservative and intra-nasal. They consisted in laying free the ostium of the naso-frontal duct by a resection of the anterior end of the middle turbinate and by the opening and curettage of the bulla ethmoidalis, the uncinate process of the ethmoid and anterior ethmoid cells.

Knowing, as we do, how many cases of chronic maxillary sinusitis yield to simple irrigation or to the formation of a small opening into the sinus in the lower meatus and subsequent irrigation through it, it does not surprise us that these simple conservative endo-nasal methods sufficed to cure or alleviate the frontal sinus condition in a large percentage of the cases. In fact, to this day Hajek, the father of sinus surgery, uses no other methods than these in all uncomplicated cases of chronic frontal sinus suppuration.

In 1905 Fletcher Ingals of Chicago conceived the idea of widening the naso-frontal duct intranasally at the expense of its anterior border, that portion of the frontal bone and the ascending process of the superior maxilla which constitutes the medial portion of the frontal sinus floor. After having introduced into the sinus a steel sound, he passes over it a flexible burr and with pressure forward on both the burr and the sound he cuts away the spongy bone constituting the anterior wall of the naso-frontal duct.

Goode attains the same object by passing into the sinus a malleable metal protector which lies against the tabula interna of the frontal bone. He then removes the medial portion of the sinus floor partially by chisel and partially by means of a specially constructed rasp.

Halle of Berlin, claiming that Ingals, by slipping his burr over the sound, cannot help but drill away a portion of the tabula interna and thus expose a portion of the dura, uses a modified Goode protector in the duct and then drills only anterior to this protector always using a forward pressure on his burr. After having slightly widened the duct he works only with a pear-shaped burr whose broad end is polished and non-cutting. With this instrument he drills only from above downward always using a forward pressure. Both Halle and Ingals keep a metal tube in the widened duct for 3-4 months after the operation.

My own operation for chronic frontal sinusitis is practically a modified Goode operation and, briefly stated, is as follows. After careful cocainization of the field of operation I resect the anterior one-half of the middle turbinate. I then thoroughly open and curette the bulla ethmoidalis, the uncinate process of the ethmoid and the anterior ethmoid cells using the Hajek curettes and the Gruenwald-Hartman punches. In order that I may thoroughly exenterate all of the anterior ethmoid cells, I first chisel away a small portion of the ascending ramus of the maxilla anterior to the insertion of the middle turbinate. Without doing this it is practically impossible to reach the most anterior ethmoid cells, those in the region of the naso-frontal duct. I now introduce a thick sound into the frontal sinus. After the preliminary measures just described this can be accomplished in 90-95% of all the cases. In my earlier operations I always used to convince myself that the sound was in position by examining the patient with the fluorescent screen before proceeding further.

I next pass into the sinus the smallest size of the soft metal protectors of Halle using the sound as a guide. This can easily be done because the protector can be bent to the same curve as the sound and has a groove on its posterior surface which fits over the sound. The sound can now be withdrawn and the protector lies against the posterior wall of the duct, the tabula interior of the frontal bone. I now remove the mass of spongy bone lying anterior to the protector and forming the medial portion of the floor of the sinus and the anterior wall of its duct. For this purpose I use a forward and downward cutting rasp whose curve corresponds in general to that of the sound originally employed. I also make use of various sized, sharp, strong cutting curettes whose cutting surfaces are bent about 45 degrees toward the handle. I continue this process until I have formed a canal into which I can easily introduce a protector 7 m. m. wide. The subsequent treatment consists of daily irrigations beginning one week after operation. I have never found the necessity of introducing any metal tubes or buttons to keep this opening patent. The entire operation can be done under local anesthesia, in the sitting position in from 10 to 20 minutes.

With this method I have operated upon 13 frontal sinuses which were chronically infected. One case was lost track of. One case was operated upon three months ago, too recently to base conclusions on, but has to the present time had no recurrence of the trouble. In the remaining 11 cases I was obliged to resort to the radical Killian operation only once. This was in the case of a young woman with a bilateral infection. Both sinuses were operated upon intra-nasally at different sittings. One side was entirely cured by the intra-nasal procedure but on the other side the headache and the discharge of pus did not abate much after the operation and I was obliged to resort to an external Killian operation later. The reason for this failure lay in the fact that on this side a bony septum divided the sinus into two complete and separate chambers. In as much as the suppuration was in the external of the two it was not reached by the endo-nasal operation.

Halle reported 19 cases with one unhealed. Gruner operated upon 18 cases. In only one case was a second curettage of the duct necessary. Ingals claims that 95% or more of all suitable cases operated upon by his method are cured in two weeks to 6 months after operation and Ballenger states, "According to my experience, in not more than 5% of the cases in which the skiagraph shows inflammation of the frontal sinus has it been necessary to perform an external operation. Indeed, my records show that only 2.5% of cases needed the external operation."

The operation on the frontal sinus by either the external or the intra-nasal route should not be attempted without a thorough preliminary X-ray examination of the patient. This examination should be made in both the antero-posterior and

the lateral positions. It will demonstrate whether or not a sinus exists. It will give us the general dimensions of the sinus and will show, to some extent at least, whether it is subdivided either incompletely or in such a way as to form two or more separate sinuses.

Summary: No intra-nasal operation is ever intended to entirely replace the radical external operations on the frontal sinus. In all cases where complications exist or are feared, in all cases of double-chambered sinuses where the infection lies in the outer half, in all cases where thorough intra-nasal operations have been tried without benefit, the radical operation is indicated.

On the other hand when we remember that the entire operation can be completed in from 10 to 20 minutes under local anesthesia, that it offers as large a chance of relief and cure as the external operation in selected cases, that it leaves no distressing external scar and deformity and that it can always be followed by a radical operation when resultless, of which it will then form a very excellent preliminary measure, we will hesitate to hurry our patients into a radical frontal sinus operation.

DISCUSSION.

Dr. H. B. Hitz: Mr. President and Gentlemen: I think all who have been doing this class of work would approve of the suggestion in the excellent paper of Dr. Grove's. As a matter of fact the ideal operation for chronic suppuration of the frontal sinus would be obliteration of the sinus, if it were not for the one fact of the resulting deformity. The condition is precisely that occurring in a chronic suppuration in the mastoid. Unfortunately none of us like to have the cosmetic results of a radical operation of the frontal sinus coming to see us very often. The operation devised by Killian has probably done as much toward eliminating the serious cosmetic results as anything that has been done so far. It is a very serious operation, however, and if results can be obtained by an intra-nasal operation, I think it should be resorted to every time. The operation as done by Dr. Grove is essentially the operation that has been recognized, possibly with little individual modifications, for some years, but it has the one fault common to all operations of that type, such as the old operation for draining the antrum through the alveolus, or of making a small opening for drainage purposes in any large suppurating bone cavity, viz., you cannot see what is going on within. If you can get the result in a comparatively short space of time by a process of drainage, I think you should try it. I have done it in a great many instances; but every now and then, after having had a patient under treatment in this way for a considerable period of time, and finally resorted to radical procedure, I have found the conditions inside the antrum or the frontal sinus of such a character that no trivial drainage through a small opening would have been of any value whatever. If you have any amount of pyogenic membrane lining a very large closed cavity, oftentimes with large granulation masses, and sometimes large retention pockets, such as suggested by Dr. Grove, as in a divided cell, the only operation that will give any results, is the radical procedure; a procedure which opens up the sinus very thoroughly, curettes it as thoroughly as possible, and eliminates to a large extent the bone cavity. I think that in a great many cases of frontal sinusitis, where there is a comparatively small amount of destruction, where the retention has not been of the persistent character, where the membrane itself is, possibly not greatly thickened, a drainage of this type gives a very perfect result. But in other cases that I have opened up I have found it would have been absolutely impossible to get the results aside from an external operation. I did a double Killian operation on one individual, and the case resulted in a perfect cure but with a very serious resulting deformity. This was a man, with a very large pair of frontal sinuses, with a tremendously overhanging brow. When the cortex was uncovered, the probe dropped in for 5 inches, going through the ethmoidal region, the whole cellular region of frontal and ethmoidal having broken down into one cavity. As I say, we got an absolutely perfect cure, but we left the man with a very benignant look. We had left a bridge of bone in the median line, and a bridge of bone at each arch, and above both the tissues sagged. I have done an operation in recent years five times, which has given me very excellent results in every case, but one: the one having died of a septic thrombosis of the longitudinal sinus. The operation consisted in opening the frontal sinus by an incision below the brow, the supra-orbital margin, and making a slitlike opening in the bone perhaps not more than quarter of an inch wide, although three-quarters of an inch in length, and with a bent curette thoroughly removing the pyogenic lining, leaving very free drainage through the nose, much in the manner as is done by Dr. Grove in his intra-nasal operation, packing the wound thoroughly with an antiseptic gauze, and bringing the ends down through the nose, then making a primary closure of the wound. The after treatment consisted in removing the packing through the nose, and after the 3rd day injecting Beck's bismuth paste. The result could not be improved upon.

Dr. Pfister: Mr. President, it is only this morning that a gentleman who is present here and who works in a different line, told me that he had seen a number of cases of frontal sinusitis that were sent to him apparently as stomach cases. It shows that there are a great many more frontal sinus cases than people generally, and frequently the general practitioners themselves, suspect. A good many of them get well by themselves, and others run on, the patient becoming accustomed to the discomforts and to the trouble, or falling into the hands of somebody who has better means of diagnosis and establishes a diagnosis of a frontal sinusitis.

There are three classes of cases that must be operated on externally. The anatomical, the next the chronic, which cannot be cured in any other way, and the third the acute urgent, the one where there is a great deal of pus and retention. We know that there are two ways

of the pus as secretion leaving the frontal sinus and coming down into the nose. One is the direct, the other is the indirect. If an anterior ethmoidal cell is located just where the interior wall joins the frontal duct, the course of the canal is not a direct straight, but a tortuous one, and it is in those cases that probing, draining and washing out is impossible.

The second class includes those cases in which you have established a large opening, a large avenue of drainage, but where you have failed to stop the discharge in spite of perhaps using urotropine, vaccines, and all those methods which are at some time or other helpful to stop a chronic discharge. Those cases after a certain time, and after all the ordinary methods have been exhausted, must come to the external operation. The third is one that must be done when there are urgent symptoms of intracranial irritation or even pressure; when there is a positive sign, or signs, of retention. The last class comes to the external operation most frequently, and that is the class that has given the operation a bad name. If a purulent, septic case that in its course all of a sudden shows signs of pressure, comes to an urgent operation, you are liable to have a progressive myelitis following such an operation, that will perhaps kill the patient. I had one double sinusitis end that way; a man that was in such septic condition; he lived three months afterwards; the discharge had apparently stopped, but the man a few months afterward committed suicide. I have never quite freed myself of the idea that there was a connection between his mental condition and his frontal sinus. The operation could not be blamed for it. It was urged as absolutely necessary. The man showed signs of beginning meningitis. It had to be done, but it was no doubt one of those chronic progressive myelitic cases that will eventually kill the patient; and those are the cases to be feared. But if you have a case of frontal sinusitis that you cannot cure, in spite of good drainage, and the patient is apparently well otherwise, I do not see where the great risk in the double Killian or single Killian operation comes in. There ought not to be more danger than there is in the internal operation, and the deformity can be prevented to a great extent. Deformity need not be feared, even if it is in a lady. The thing that we must be afraid of is the systemic condition of the patient at the time of the operation. I believe that almost all frontal sinus cases can be cured by the simple removal of the middle turbinate, and curetting of the anterior ethmoidal cells. Drainage is established, and nature will do the rest; washing out and helping nature along. I do not know anything of Dr. Grove's operation except that I would be very much interested to see it some time when he would show it to us. The theory as Dr. Hitz stated, is not new, only he has one feature in there that is different from what has been done heretofore.

DR. RIORDAN: If I may be pardoned for digressing a moment, I would like to make just a few remarks and then ask a question. I think what Dr. Pfister says about many of those cases passing into the hands of the general practitioner is true, and that leads up to the question on what the doctor makes the diagnosis in these cases; upon what findings he makes the diagnosis. I would also like to ask him, if it is proper at this time, what results he gets from the suction apparatus, if any?

DR. GROVE (Closing): The one salient objection to this operation has been stated by Dr. Hitz, and that is, that in this operation upon the nose, you cannot thoroughly or in any way overlook this territory where the suppuration exists. However, we know that if a pyogenic membrane has not gone too far, or if there are not very extensive bony changes, bony necroses, if you open this sinus to perfect drainage, or as near perfect drainage as you can get, and you subject it to the influence of the air passing through the nose, the suction and pull of the air going through the nose, that a good large percentage of these pyogenic membranes heal up. In a certain number of cases this measure is sufficient to take care of the condition, and those are the cases which have already been stated. Where infection has gone a long way, where there is definite bone destruction, where there is a cerebral or orbital complication, one should resort immediately to a radical operation. As Ingals has stated, from 90 to 95% of all suitable cases, that is excluding those cases which we have mentioned, heal up with this sort of a procedure. The doctor's question on the diagnosis of these cases of course takes in a slightly different field than the paper calls for. However, we make the diagnosis of these cases somewhat from the history of the preceding attacks at various periods, of suppuration from one side of the nose, of pain on that side of the forehead, of headaches that are more felt in the morning hours and die out somewhat during the day, of headaches that are more to be noticed in the bending position, of pressure points below the sinus and outside the sinus, of trans-illumination of the sinus, throwing a light underneath the eye, and illuminating the two sinuses, and in no case should the diagnosis be completed without an X-ray finding, which shows the sinus when definitely infected, to be somewhat shadowy. Besides this, there are intra-nasal findings, the secretion that comes from the anterior region of the middle meatus of the nose; a swelling and reddening of the anterior end of the middle turbinate, and the exclusion of pus originating from other sinuses which empty into the middle meatus.

EXTRASACULAR OR SLIDING HERNIA.*

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Extrasacular or sliding herniae of the cecum, ascending colon, sigmoid and bladder are those herniae in which these organs have become displaced from their usual location and are a part or the whole of the sac contents or a portion of the organ becomes an integral part of the sac wall itself. As these organs are covered but in part by peritoneum it is particularly important, owing to

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 2, 1913.

the difficulties in successfully and safely operating upon them, that the diagnosis be known. This is not always possible before operation. This form of hernia, in its repair, may tax the ingenuity of the surgeon to his utmost both as to effecting a cure and in avoiding irreparable injury to the contents of the sac.

History of case of bilateral extrasacular hernia: W. K., age 56, German, farmer. Referred by Dr. Abraham, March 31, 1913. Previous history negative. Stated the duration of the hernia was 16 years. Periodic attacks of pain in inguinal region of both sides always preceded by constipation. Attacks numbered three or four a year and were of several days duration. A small tumor was always present, which greatly increased in size during the attacks of pain. No fever with these attacks. Bending and sitting always caused some pain. Has never worn a truss. Was referred for operation on account of recurrence of pain and constipation. Examination showed a double inguinal swelling, oval in appearance. It was impossible to reduce the tumor completely. The walls of the sac felt thicker than ordinarily for inguinal hernia. The operation was carried out upon the lines to be described further in this paper. The patient left the hospital 16 days after the operation, having made an uneventful recovery. Upon recent inquiry of the patient, he states he has never had the slightest trouble since the operation and is continuing his vocation as a farmer.

In recent years more attention has been given this subject than previously by both European and American surgeons writing upon hernia. Mention must here be made of two classical articles by Carnett and Walton, both of whom have written upon this variety of hernia very completely and from them I have quoted freely.

A study of the development of the cecum and ascending colon explains the variations in the anatomical relations. For a time in early fetal life the greater part of the intestine lies within the umbilical cord and about the 5th to 7th week they are drawn into the abdominal cavity. At this time or a little before the cecum develops as a small diverticulum and covered with peritoneum. At this time the entire great intestine lies to the left of the median line and has a common mesentery, with the superior mesenteric artery as an axis, axial rotation to the right takes place. The cecal end of the large intestine reaches the right iliac fossa about the 8th month of intrauterine life. It may arrive at the iliac fossa as early as the 4th month. The journey of the cecum may be arrested permanently at any point along the normal circuit. During the early period of development the ascending colon has a well defined mesentery, however, this is lost later through fusion of parietal peritoneum and primitive mesocolon in the right lumbar region. The identity of the serous structure is lost through fusion and areolar tissue is the result. It is possible, however, to always separate these two fused layers in the new born and sometimes in the adult.

The ascending colon may, after fusion has taken place, again develop a mesentery and as the colon, when distended, lies close to the abdominal wall, it is therefore not unlikely for this viscus to be one of the number of the contents of an inguinal hernia. This portion of the large gut may also pass into the femoral opening and become the contents of a femoral hernia. The cecum itself may also fuse with the posterior peritoneal layer and thus become extraserous. It may develop a mesentery.

Hernia of this portion of the large intestine may occur in many diverse forms owing to the numerous possibilities in the anatomical relations of the cecum. The varieties of cecal hernia may be classified as (1) Simple, (2) Extrasacular, or gliding (3) Sacless. They may originate from either congenital or acquired causes. In the simple form the cecum descends into the sac similar to any loop of small gut, colon or omentum. The appendix alone may be present. The writer has had one case in which the appendix became acutely inflamed while in this situation. Adhesions from inflammation of the sac, cecum or appendix may occur and thereby prevent reduction. The congenital form may originate from an excessive mobility of the ascending colon or cecum and in those cases in which the embryological condition of the mesentery has persisted with its subsequent entrance into a patulous vaginal process. It may also originate where the ascending colon has acquired a mesentery, thereby making the viscus mobile. It may also originate from the presence of a large cecum or appendix and where one or both passes down into the sac, while the ascending colon remains undistrubed.

The simple acquired cecal hernia is similar to acquired hernia of the small intestine or omentum. Upon introducing the finger into the sac it can be swept about its entire circumference.

In the extrasacular variety of hernia, and this presupposes the presence of a sac, the cecum or descending colon is either outside the sac in part or the mesentery of these viscera is firmly attached to a portion of the sac, thereby a simple reduction becomes impossible. This condition is brought about by these structures sliding down from their usual position and may be due to congenital or acquired causes.

The congenital are as follows: The cecum may be actively drawn into the vaginal process by means of connections excessively developed, with the testicle. In fetal life a fold, known as the plica vascularis, is seen to run up from the mesorchium along the posterior wall, to end in the cecum, appendix and mesentery and ileum. This plica vascularis encloses the spermatic vessels. About the seventh month of intrauterine life the testicle lies within the abdominal cavity near the internal ring. The testicle is loosely attached to the posterior abdominal wall. In its descent upon the right side these structures may be dragged down into the processus vaginalis. This condition has been demonstrated at both operation and autopsy. Finally, adhesions may form between the posterior surface of the cecum and the peritoneum covering the testicle, which has not yet descended and in the then subsequent descent of the testicle the viscus will be dragged down.

The acquired condition occurs in the following manner in that there is either a prolapse of viscera upon the posterior abdominal wall, so that the cecum lies in closer contact with the inguinal or femoral opening, and thus can easily prolapse through it or a simple hernia sac forms which enlarges and as it does so, drags down the peritoneum upon the posterior abdominal wall. The cecum, colon, and appendix, being firmly attached to this portion of the peritoneum are consequently dragged down and thus form the upper and posterior external part of the sac.

Cases have been reported where the cecum has been present in hernia upon the left side, however, a transposition of viscera would be necessary. One might question the possibility of a left extrasacular cecal hernia unless a condition of situs inversus existed.

The different types of extrasacular hernia may be grouped as follows: (1) The type which has a definite mesentery to the lower part of the ascending colon, either of congenital or acquired origin. This mesentery is attached to the posterior wall of the sac for a greater or lesser degree. Reduction of the cecum and colon becomes impossible unless the sac be also reduced. It must be borne in mind that the ileo-colic artery entering between the two layers of mesentery may be liable to injury. (2) This type has no mesentery to the colon as this viscus has prolapsed through the ring while in its normal extraperitoneal position. The sac therefore will lie in front of the colon and only its anterior surface will be covered by it. The posterior surface of the viscus lies in direct contact with the posterior wall of the inguinal canal. The ileum and usually the appendix maintain their normal peritoneal relationship and will lie within the sac. (3) In this type the condition described above will become more accentuated so that the ascending colon descends to such a degree that a U-shaped loop is formed. The whole of this loop may be extrasacular or the cecum may retain its normal relationship and lie within the sac covered by peritoneum.

Sacless hernia. The cecum escapes from the internal ring devoid of its serous covering and absolutely free from any structure resembling a sac and without producing any defect in the parietal peritoneum. This condition is very rare and the diagnosis is only made at operation. Suspicion should be aroused where there is a large hernia of long standing which in part is irreducible. The neck of a sacless hernia is wide and strangulation is rare. It is very easy to open into gut at operation.

Hernia of the bladder may be complicated with both femoral and inguinal hernia. Three varieties have been described. (1) The first variety has a peritoneal covering and occurs within the sac of a large inguinal hernia and through an enlarged deep abdominal ring. (2) The second variety is that form where the bladder forms part of the wall of the sac. This is the most frequent form. The bladder is situated on the inner wall and with only a partial covering of peritoneum. (3) The third variety is that form where the bladder descends entirely devoid of peritoneum.

Appearance. There is no peculiar or especial appearance in this variety of hernia whereby it may be differentiated from the ordinary forms of inguinal or femoral hernia and thus place the surgeon on guard. Sometimes there may be a peculiar type of swelling in that no matter what size the tumor may be, its neck is enormously large.

The diagnosis and symptoms of cecal, colic and sigmoid hernia:

Their diagnosis is particularly important owing to the difficulties in successfully and safely operating upon them. It is not always possible, however, to diagnose the condition before operating. Examined early, they present the general appearance of an ordinary direct hernia. The slowness and more frequently the inability of reduction leads one to suspect something out of the usual order. Even when reduction is possible the "gurgle" which is the usual accompaniment of the reduction of most herniae, is absent. The apparent reduction is not perfect owing to the anatomical arrangement of the bowel and sac wall. The pressure of a truss is not well tolerated in patients suffering with this form of hernia. Strangulation is not liable to occur owing to the large size of the neck of the sac. Aside from congenital cases, this form of hernia develops slowly. There may be more or less severe symptoms of intestinal obstruction occuring at intervals. Acute or chronic inflammation or strangulation of the appendix may be a frequent complication. In children with very thin walls it may be possible to demonstrate by palpation the presence of an appendix and cecum in the sac previous to operation.

It has been suggested taking a skiagraph after the injection of bismuth as an aid in the diagnosis. Traction of the testis in some cases of congenital hernia may reproduce the hernia.

A caution to be observed in every case of operation for hernia is to bear in mind the possibility of the intestine being uncovered by any serous coat and thus inadvertently the intestine may be opened while searching for the sac.

As a general rule, the presence of some abnormality is made clear by the presence of a mass of fatty muscular tissue within the inguinal canal after splitting the external oblique muscle, which differs from the peritoneum of the ordinary hernial sac. It is always advisable in any doubtful case to incise the sac at the upper inner side of the cecum. After opening the sac the condition is made entirely clear by the presence of a portion of large gut which is seen to be firmly adherent to the posterior wall of the sac and thus to be irreducible, or by the fact that a thick mass can be felt forming the posterior and outer wall of the upper part of the sac.

Symptoms of bladder hernia. The symptoms are most often ill-defined, and in the majority of cases the presence of this viscus is only found at operation. These herniae are usually large and reduce only incompletely and this fact alone should make the surgeon suspicious of the presence of this organ in the hernial contents and that is undoubtedly associated with a part of the sac wall. It may be possible occasionally to detect dullness upon percussion of the swelling. Micturition may take place in two stages; first, an emptying of the bladder and then upon movement the urine passes out of the hernial portion and is then expelled and coincident with this the disappearance of the tumor. Sometimes pressure upon the hernial swelling may cause a marked desire to urinate. Filling the bladder with an aqueous solution will increase the size of the tumor. There may be a rush of fluid when quick and firm pressure is made. Great caution is advised in operating not to open the bladder inadvertently, for the muscular fibres of the bladder are infiltrated in great part with fat, so that it may be mistaken for extraperitoneal fat. This may be followed by fatal results.

Whenever doubt arises as to the nature of the underlying tissue it is prudent to inject fluid into the bladder through a catheter before proceeding further with any operative measures. In simple hernia the gut can be reduced in a manner identical with that of the small gut and the sac closed and walls repaired in any way which the operator may favor. In the extrasacular form the following operation was carried out and according to the following steps: 1. Make the usual incision for ordinary direct hernia. 2. Slit up the aponeurosis of the external oblique in the line of its fibres and expose the sac fully. 3. Free the sac carefully from the surrounding structures of the cord and open same at the fundus. 4. Enlarge the opening of the sac along the anterior surface to expose the contents freely. 5. Divide the sac with scissors on the posterior surface to within one-half inch of the caput cœci and carry the incision along either side of the cecum as far as the neck of the sac and at a distance of one-half inch from the lateral walls of the cecum. 6. Pull the cecum forward and two flaps of peritoneum are now seen. 7. Suture flaps together so as to surround the posterior surface of the cecum which was bare. 8. Suture the two edges of the divided sac together behind the cecum. 9. The cecum which is now free can be pushed back into the abdominal cavity. 10. Treat the sac according to Kocher's method.

11. Close the muscular and aponeurotic wall according to the method of Bassini.

The following points are to be emphasized: 1. In cases of doubt respecting the sac incise the peritoneum on its normal anterior surface. This gives the opportunity to explore sac and contents from the abdominal side. 2. Do not attempt to dissect the sac from the cecum. 3. Make the flap sufficiently wide so that when folded back the gut is not constricted. 4. Do not injure the vessels supplying the gut.

The treatment of sacless hernia is more difficult. Simple cases may be easily reduced in the ordinary way and in the severer forms it will be necessary to reform a mesentery and sac and then complete the operation in the usual way.

The treatment for bladder hernia is similar to the steps enumerated above in cases of extrasacular hernia.

DISCUSSION.

DR. EDWARD QUICK, Milwaukee: Dr. Marshall has very properly brought a report and a general consideration of a rare form of hernia; properly because in these days we are inclined in practically every case to give a very favorable prognosis in any proposed operation for inguinal or femoral hernia on account of the aseptic work which can be done, and of the practically 100% of cures that can be secured. But we should not be unmindful of the fact that there exists a sliding hernia which is tremendously difficult to cure in some cases, and in other cases impossible to cure.

The mechanism of sliding hernia, when we think of it, is not so difficult. There must always be a sac in hernia. The peritoneum forming the sac must come from the anterior abdominal wall, or from the posterior abdominal wall. Usually it comes from the anterior abdominal wall. When the larger part of the sac comes from the posterior abdominal wall we have a descent of the cecum and appendix upon the right side, and of the sigmoid upon the left side. We then find the structures filling the sac and the posterior wall of the sac, practically the same structures. The Mayo clinic reports something over 1600 hernias, and in that group there were 14 sliding hernias. One European author has collected 800 hernias containing 13 cases of sliding hernia. In the operation we should be careful not to injure the blood supply of the gut which is contained in the hernia. Sometimes it is extremely difficult to isolate the contents of the hernia and the sac from the structures of the cord, and it has been found necessary by some operators to sacrifice the testicle in completing the operation. This, of course, is a very radical procedure, and I should not do it without permitting the patient to come out of the anesthetic and later doing a secondary operation with his consent. My own experience with sliding hernia is confined to two cases, which I remember as an interne, and both were hernias of the bladder. Within the last year, I have had two hernias which probably in time would have become sliding hernias, if they had not become strangulated and been operated upon. The first was a woman 30 years of age, who was sent into the hospital on a stretcher with acute strangulation of a right femoral hernia. In the operation I came across a necrotic mass which I could not isolate, and with which I could do nothing. I did a median laparotomy and a retrograde reduction, finding a gangrenous appendix as the contents. No doubt if this condition had gone on for 10 or 20 years, this patient would have had a much larger femoral hernia, and what we call a sliding hernia. The second case was in a woman 60 years of age, with a strangulated left femoral hernia, and the same procedure was necessary. When opening the sac I found a black mass, which I thought might be an ovary. In fact could not determine what it was. I did a median laparotomy and a retrograde reduction, and found an appendix epiploica in the sac which was strangulated. This case probably would have become a sliding hernia had time enough elapsed.

THE RELATION OF THE PSYCHIATRIST TO THE JUVENILE COURT.*

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It is with considerable timidity that I approach the subject which I wish to present for your discussion this evening, primarily because the modern conception of the defective child and its needs is so broad in its scope, the scientific work along this line but in its formative period, and my personal knowledge and experience in the field so limited.

It would seem that we are experiencing one of those periodical moral upheavals which have characterized the progress of civilization from its beginning, and it is certain that out of the confusion and much that is absurd and immature and more the result of too great zeal than of sound judgment, great permanent good must eventually develop.

But little thought is required to detect the great and far-reaching significance which should be attached to such a meeting as this to-night. The representative men and women of a community sufficiently interested in their fellow man, their community and country to give gratuitously their time, means, and thought, unite with representative medical men for the purpose of discussing a problem which is claiming the attention and thought of many of the best minds of all countries.

The juvenile problem has been thrust upon us

*Read at a joint meeting of the Medical Society of Milwaukee County and the Central Council of Social Agencies.

by the alarming developments growing out of the investigations of the National Committee of Mental Hygiene. We have been made to realize that we have in this country over 200,000 mentally defective individuals and only about ten per cent of them are under suitable care. This figure has no connection with the 200,000 insane under institutional care. At present New York state alone has 32,000 feeble minded persons. 22,600 are at large and of this number 10,000 are girls and women. Goddard estimates that in the way of spreading disease and immorality and increasing the stock of feeble minded, a girl or woman of this class of child-bearing age is three times as great a menace to the community as a feeble minded boy or man. Amos Butler of Indiana in an address before the National Conference of Charities in 1907 stated that "feeblemindedness produces more pauperism, degeneracy and crime than any other force; that it touches every form of charitable activity; that it is felt in every part of the state and effects in the same way all the people and that its cost is beyond comprehension."

It would seem as if we were not satisfied with the number of feebleminded produced within the limits of our own country, but must import thousands annually from Europe. Only recently has any consistent and truly scientific effort been made to examine the immigrant with the purpose of seeking out the various grades of imbecility and turning back individuals who become either a lifelong charge to the community in which they find lodgment, or help to swell the ranks of the criminal. Even at the present time our government is so niggardly in its appropriations that this inspection cannot be properly carried out. Wisconsin with its several institutions for the feebleminded is far behind the needs presented by this problem and will remain so even after a new colony is in operation, for which the last assembly provided $300,000.

The natural inquiry is, "Whence this horde of feeble minded?" We cannot believe that the increase of recent years has been so great as some students of the situation would have us believe, but are inclined to compare it to the tuberculosis problem and others of national import. We have grown so fast and been so busy that we have not stopped to take stock and have missed the true significance of many things occurring about us and only had the enormity of the situation brought to us by a national movement in eugenics and mental hygiene. Investigation of the causes of feeblemindedness carries us far afield. We have been too prone to emphasize the influence of insanity on the part of the parent in the development of this condition. There can be no doubt, however, of the influence of a psychopathic inheritance. There can be no better illustration of the sins of the father being visited upon the children than is witnessed in the great majority of the feebleminded. Aside from the accidents of birth the chief factors operating in this field are alcoholism, social diseases and dissipation. Of course, little can be expected of the offspring of the insane, epileptic, or feeble minded. A glance at the causes of feeblemindedness at once explains why no one has been able to offer a single remedy for the situation. Its remedy lies in the better regulation of the immigrant problem, in checking excesses in alcohol, in restricting or abolishing prostitution, in the regulation and proper treatment of social diseases, in improved and uniform marriage laws and in making it impossible for the insane, epileptic, feebleminded, chronic criminal and actively tuberculous to reproduce their kind.

For some years the conviction has been growing in the minds of judges, lawyers, physicians and even laymen that there was some relationship between crime and abnormal states of mind. The ancient reverence and awe of the psychic, which for centuries interfered with the application of rational methods in dealing with the brain and its functions, is rapidly vanishing and surgeons no longer fear to invade the cranial cavity or penetrate the brain itself. Modern study of normal and abnormal psychology makes brain functioning commonplace and we measure mentality with almost the same ease and accuracy that we examine the stomach contents. The hospital for the insane that does not possess a psychiatrical laboratory in charge of a trained psychologist and psychiatrist is no longer considered progressive. Some of our large railway systems are employing a psychiatrist to make regular neuropathic examinations of those employes having to do with the despatching and running of trains. They discovered that many of their worst accidents were due to chronic alcoholism, eplipsy, paresis, and incipient insanity in men connected with the transportation department. Chicago is building a psychopathic hospital where the insane can receive attention as sick individuals. To the laboratory will be brought transgressors of the law instead of to the jail. They may require

mental treatment instead of punishment. Their overt acts may be the outcroppings of disease instead of deliberate, wanton criminality. The new psychopathic laboratory, the first of its sort in the United States, will be established as an auxiliary to the Municipal Court as a result of the judges' acceptance of a committee report and recommendations.

The position of the psychiatrist in the juvenile court has become thoroughly established by the results accomplished in several of our large cities. The work of Dr. Healy in the Chicago Detention Home is familiar to many of you, and I cannot do better than to quote freely from him at this point, "It appears perfectly plain to any one who thoughtfully views the general criminalistic situation and especially the procedure of courts which deal with offenders who are presumably more or less in the formative period, that the agencies intended to produce the desired reform are set in operation without any careful ascertainment of the actual needs of the individual as such. In other words, treatment is definitely undertaken without diagnosis. The most cursory inspection shows that many cases appear in our courts presenting extremely difficult problems. This fact, together with observations of the failures of institutional treatment, due frequently, as many institutional men say, to improper classification and disposal of the offender, is leading many people who are acquainted with first hand facts to the conclusion that, perhaps one of the greatest causes of the lack of success in our handling of criminals has been our neglect of the study of their actual mental conditions, needs and adaptabilities. Particularly does it seem that both they and society could profit, if carefully adapted regenerative or protective measures might be undertaken at the age when habits and character are being set. As for ourselves, it has been borne in upon us that the great call is for some practical methods of accurately determining what really may best be done for this or that individual offender in order that society may cease to suffer from his or her delinquencies." "The desirability of psychological work in connection with courts which have to do with the disposition of criminals and delinquents, especially juvenile courts, is perhaps hardly necessary to emphasize to readers of this paper. But still it may be worth mentioning that the judge with his slender opportunities for observation and his lack of results of carefully conducted examinations is often in a poor position to do the best that could be done. We know too much about mental defectives who have the gift of language, appearing bright and with good enough presence to readily pass muster in court, we know too much of defectives who can do well under the prescribed conditions of institutional life, to believe that without competent psychological examination differentiation can be safely made between those whom it is wise for society to allow out on probation and those who in the interests of social protection should have proper institutional or other guardianship."

Such efficiency has been developed in the Chicago Detention Home that many offenders who are found mentally defective, come before the judges only for the disposing of their case as Dr. Healy recommends. In Philadelphia, Dr. Walter Cornell with the assistance of Judge Jas. Gorman and the chief probation officer has worked out with care a system by which all the children brought before the probation department of the municipal court have their intelligence determined by scientific tests. This will be done before the child appears in court. In the Iowa state reformatory, 370 inmates were submitted to the established tests. Of this number only 145 tested 12 years of age or above; 138 had a mentality of 11 years; 41 of 9 and 10 years while 46 tested 8 years old or less, mentally. This large degree of mental defect was not recognized or suspected by judge or jury. Those familiar with this work have long since learned the little reliance that can be placed upon the individual's general appearance and that the only reliable test is a careful physical and mental examination.

The above figures and many more of even more pronounced character are startling and open a wide field for coöperation between the medical and legal professions. The conception of delinquency as a medico-psychological problem will bring about profound changes in our method of dealing with the delinquent classes. The ability to detect feeblemindedness early among school children will obviate much confusion in the schools and waste of effort on the part of conscientious teachers. It will tend to lessen anxiety and uncertainty of the parents and this clear knowledge will protect the defective child and lead to placing him where he will receive the greatest good and his care cease to become purely custodial, but educational and in many instances self-supporting.

Heretofore we have been discussing the juvenile problem in a general way. Permit us now to direct your attention to some of the causes which bring the juvenile offenders into court, their nationality and the methods in vogue for handling these cases with particular reference to the Milwaukee Juvenile Court.

The Wisconsin statutes as applied to the juvenile court were enacted as late as 1901. This law describes a dependent or neglected child as "any child under the age of sixteen years, who for any reason is destitute or homeless, or abandoned or dependent upon the public for support; or has not proper parental care or guardianship; or who habitually begs or receives alms; or who is found living in any house of ill-fame, or with any vicious or disreputable person, or whose home by reason of neglect, cruelty or depravity on the part of its parents, guardian or other person in whose care it may be, is an unfit place for such child; and any child under the age of eight years who is found peddling or selling any article, or singing or playing any musical instrument upon the street, or giving any public entertainment without a permit therefor, to be issued in his discretion by the judge of the juvenile court hereinafter provided for. The words 'delinquent child' shall include any child under the age of sixteen years, who violates any law of this state, the penalty for which is not imprisonment in the state prison or who violates any city or village ordinance; or who is incorrigible; or who knowingly associates with thieves, vicious or immoral persons; or who is growing up in idleness or crime; or who knowingly patronizes any place where gaming device is or shall be operated; or who knowingly visits or enters a house of ill-repute or who patronizes, visits or enters any stall saloon, or wine room, or any saloon frequented by men and women of bad repute; or who attends, visits or enters any dance held in any room or hall in connection with a saloon, unless accompanied by parents or legal guardian; or who loafs or congregates with groups or gangs of other boys at or about any railroad yard or tracks; or who habitually uses obscene, vulgar or profane language; or is guilty of immoral conduct in any public place, or about any school house; or who is habitually truant, or habitually insubordinate in any school."

From July 1, 1901, to July 1, 1908, 3,676 new cases came before the Milwaukee Juvenile Court. Each year shows a marked increase over the preceding one. There were 304 in 1902 and 926 in 1907. A proportionate increase has been maintained during subsequent years. The only records available show that the great majority of these children are boys, and by far the greatest number come into contact with the law at the adolescent period, 10 to 12 years of age. Most are children of Polish, German, Irish or other foreign immigrants. There were only 48 American born in a list of 349. Their offenses vary all the way from the use of profane language to assault, and burglary. 130 out of the 349 were apprehended for larceny or burglary.

Prior to the time of juvenile courts, many acts now considered an offense in the sight of the law were quite overlooked and it was only when a child was detected committing some flagrant breach of the existing laws that he was arrested and tried as an ordinary criminal. If convicted, he was thrown into a jail, reformatory or penitentiary along with the adult and oftentimes hardened criminal. One can scarcely conceive of a better training school for criminals, prostitutes and offenders against our laws. The time came when it was apparent that these children could not be considered in the same light as the adult offender, and that the disposition of their cases must of necessity be different. Sitting in the juvenile court, observing the stream of unfortunate children passing before the representative of the law, one is moved more with pity for them than with a desire for punishment. The question has been asked most pertinently, "What can we do *for* these children, instead of *to* them?" When we realize the great difference between the child mind and the adult, particularly the adolescent child; when we have an insight into their home life, the poverty, drunkenness of father, mother, or both; the absence of affection and sympathy, the offspring being an accident of life, instead of something to be desired; when the street is more alluring than the home and the doorstep a more comfortable couch than the bed at home; when delicate ill-fed children are sent out to make a pittance to help support a drunken or lazy parent—we marvel that so few go wrong and come into contact with the law.

Milwaukee is most fortunate in possessing a fine juvenile court building and detention home, which under competent management will prove a very powerful factor for good in the community. The presiding judge is most comprehensive, sympathetic and deeply interested in his field of work and is aided by a capable staff of probation officers.

Until recently no attempt has been made to determine the degree of responsibility, intellectual or moral of these juvenile offenders. Although the field of work is new, it has already produced such men as Goddard, Healy and Huey, whose work presents a substantial foundation for those who follow in the same line. In our work in the Milwaukee Court we are following the plans and suggestions as outlined in Dr. Healy's psychological monograph. As yet we have not been able to develop a sufficient force to do thoroughly scientific work and therefore are unable to examine as many children as is desirable. We prefer to take those cases of palpable mental or moral deficiency and go over those most carefully. An entirely satisfactory examination includes a psychological study, a physical examination and mental and moral tests as suggested by the Binet-Simon methods, along with a statement from the child and a history of the case as presented by the teacher and the parents. Many of these children appear quite normal and mentally even above the normal, but testing them out shows at times marked defectiveness in the intellectual or moral sphere. In fact, it is this very high mental development along certain lines that often proclaims the potential criminal and later produces the gangster and confirmed criminal.

Out of all this discussion, there arises the natural question "What are we going to do about it?" Many excellent suggestions have been made, but I believe no one would presume to offer a prompt solution of the problem. The solution must come, if it ever comes, by slow, patient, laborious study of the problems presented by involuntary poverty, the social question, the influence of inheritance and environment, and a well planned and persistent campaign of education.

It would seem to us that the burden of this problem of necessity lies with the medical profession. We should familiarize ourselves with this great movement and exert every energy to stem this unfortunate tide. Every abnormal state of mind is a pathological problem which sooner or later our profession will be called upon to handle.

The general practitioner is frequently called in to pass upon the actions of "peculiar" or "strange" children. He must be able to distinguish between normal and abnormal states of mind and between willful acts and those for which the child is not responsible. Many of these cases are manifesting the early symptoms of a psychosis.

It is only through the proper comprehension of these cases that each child can receive fair and proper treatment.

SURGICAL ASPECT OF DISEASES PRODUCING PERITONITIS IN THE UPPER ABDOMEN.*

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In an effort to bring to notice a field so vast as the one under present discussion, one may reasonably expect, and even demand that a charitable view be taken of a paper the limitations of which are quite extreme. I assume that the purpose of your Committee was to select some one to present the surgical phases, with the primary object of provoking a wide and thorough discussion, and I have no doubt that the interchange of views will be greatly beneficial to all of us.

There are at least three forms of peritonitis in the upper abdomen, which require some variations in treatment. The intelligent and conscientious surgeon will not open the abdominal cavity for the relief of a peritonitis due to the presence of a toxic exudate from the lumen of the bowel, if he can be convinced that the actual passage of bacteria has not taken place. In other words,—he will refrain from operating on a non-perforative case, unless bacterial assault has resulted in the formation of an overwhelming peritoneal accumulation.

On the other hand, most surgeons will follow the plan of opening the abdomen in the tuberculous forms of peritonitis, since experience has shown brilliant results in this very simple surgical procedure.

In the first or chemical form of peritonitis, repair commences as soon as the source of the bacterial poison is eliminated. The disease is never progressively worse and while the symptoms are alarming and vicious at the onset, we secure prompt and permanent relief by simply attending to the elimination of the source of supply. If it is from the bowel, then a physic and an intestinal antiseptic. If from some extra-peritoneal infective process, then its prompt elimination by drainage or otherwise.

There remains, however, a form of peritonitis in which simple medical means is of no avail. In-

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deed medication in this form is positively harmful, if we exclude the use of drugs intended for the relief of pain and the arrest of peristalsis. I refer to peritonitis due to perforation of one of the hollow viscera or to the giving way of the walls of septic cavities with resulting infection of the peritoneum, also to peritonitis due to the introduction of septic material during an operation, or through penetrating traumatism of the upper abdomen.

The upper abdomen is not so apt to be the seat of peritonitis due to bacterial invasions from neighboring organs, as is the lower, where appendiceal, puerperal and Neisserian infections are operative,—but this infection by continuity must be taken into account here as well as in the lower abdomen, for a duodenal ulcer, an infected gall bladder, a pancreatitis, a stomach ulcer, or an infection from a pyonephrosis, or from a pleuritis or empyema by way of the lymphatics of the diaphragm, may cause a peritonitis with symptoms quite as severe as those of the true perforative type.

In cases due to the sudden emptying of an abscess into the abdominal cavity, a very misleading symptom is the sudden relief of pain which often occurs,—but the careful and experienced surgeon will quickly note the progress of other grave symptoms, the quick pulse, rise of temperature and the general septic phenomena, and will not be long led astray.

The symptoms of perforation of any of the hollow viscera with resulting pouring of their contents into the upper zone of the abdomen are much the same without regard to the organ which is the seat of lesion. The history of the case may lead the surgeon to suspect the offending organ, but on the other hand, the majority of patients with perforation are too ill, and suffering too acutely to be able to give a very connected and intelligible history. It is therefore imperative that the surgeon upon opening the abdomen, should study the appearances of the viscera and of the free fluids, to the end that he may quickly be led to the point of assault, avoiding extensive and unnecessary manipulations. Such conditions as fat necrosis, bile straining, or the presnce of food debris quickly guide one to the offending point, and make possible the work of relief unattended by purposeless handling which so often means the loss of the patient.

Peritonitis, the result of perforation is always a polyinfection. The streptococcus is the predominating factor, but is apt to be masked by the saprophytic colon communis, which penetrates tissues much more rapidly, and to some extent overshadows the other bacterial process.

It is a mistake to teach that conditions which eventually produce perforation are preceded by a chain of symptoms which should lead one to suspect the lesion. This is not always true. A man may have been in perfect health so far as he himself knows, and yet perforation may occur after a very short period of suffering and a fatal peritonitis end a life that promised to be prolonged to an old age. Just as it was formerly taught that the ingestion of food produced pain in stomach ulcer, so this fetish of prodromal symptoms must be thrown aside with enough emphasis to awaken the general practitioner, who usually sees these cases before the surgeon is called. If anything is to be done in a case of perforative peritonitis,—then it must be done quickly. The so-called classic symptoms of peritonitis,—the drawn face, distended belly, with quick pulse, clammy skin, and effortless vomiting indicate to the surgeon, that it is too late to operate, and the general practitioner must be educated to a realization of the necessity for early diagnosis of peritonitis even when he cannot easily trace the source of the invasion. It is deplorable that the patient with a localized peritonitis due to appendicitis is quickly rushed to the surgeon, while a more dangerous peritonitis due to other causes and amenable to surgical treatment is left to itself, and this neglect will be remedied only when it is fully recognized that we operate in appendicitis to prevent peritonitis, and not to control the infective process in the appendix itself,—except to remove the focus which will ultimately lead to the involvement of the peritoneal cavity.

The symptoms of perforation that are of interest to the surgeon are:

1. Pain, sudden, acute, and violent and this pain may be localized or general.
2. Breathing with a grunt, and this symptom I have never seen absent.
3. Nausea, and probably vomiting.
4. Intestinal stasis.
5. Parietal rigidity.
6. Extreme prostration of the progressive type.

The pulse and skin give added evidence, but they are of lesser importance, though they may be profitably observed. A fast pulse becomes faster. A clammy skin becoms clammier. The temperature gives no information at all. It may be high or low and an abnormally low temperature is not

uncommon in the gravest cases. In the presence of these symptoms, progressing and constant, there is no time for laboratory tests, or prolonged examinations and manipulations. With a perforated stomach, I will place myself in the hands of a Veterinary Surgeon with a knife and a drainage tube with a feeling of greater security than I would have surrounded by men who doubt the presence of peritonitis because of the absence of some classic symptom, or who feel it their duty to completely settle the exact location of the perforation before proceding to operate. These symptoms demand exploration at least. One may have severe gastric pain from an acute indigestion, but nausea and vomiting give relief. One may have pain that is agonizing from the passage of gall stone or from renal colic, but these cases have other classic symptoms,—and besides they are surgical, and an error in diagnosis will not be a very grave matter. And in this connection I wish to impress the necessity of conservatism,—not as regards the exploration,—but as applied to the nature of the operation that shall be performed in a case of perforation.

At the last meeting of the American Medical Association, Deaver's paper advocating gastro-enterostomy in all perforative ulcers of the stomach and duodenum was severely and I believed justly criticized.

These patients are in desperate straits, and the primary object of an intervention must include the saving of the patient's life quite as much as the end results. When the field has become surgically clean it will be time to undertake such operations as resections, cholocystectomies, and gastro-enterostomies. It is therefore better to simply suture the perforation and insert a drain in those desperate cases which obviously will not permit of more extensive surgery.

In the case of a perforated gall bladder, a drain may answer all of the immediate indications, whereas, the manipulations necessary to the removal of the gall bladder may open up the channels of infection and determine a fatality which should have been avoided.

We should all remember that a general peritonitis is not a common condition. It is true that appearances will often warrant such a diagnosis, and yet when the case is carefully explored, it will be found that the trouble is more or less localized. We have all observed a great and apparently, uniform distention of the abdomen, attended by the other symptoms of a general peritonitis, in which upon exploration a localized infective process, such as a subphrenic or an appendiceal abscess was the offending force.

Few cases diagnosed as general peritonitis are really such. In the upper abdomen rarely are large abscesses found, for the peritoneum, rich in lymphatics in that region, does not allow of the delay of dissolution long enough to produce such accumulations.

If all operations intended for the relief of peritonitis were undertaken with the conviction that the disease is local, and that every manipulation which will tend to extend the zone of infection should be avoided,—if this is done, and in addition the surgeon will be satisfied to look upon his intervention as a temporary life saving measure,—open to later corrective operation when a surgically clean cavity will permit a proper and thorough exploration,—if during the primary operation the damage to the undestroyed endothelium is not too extensive; if to secure this result, the surgeon will be satisfied to allow the peritoneum to take care of considerable septic material, rather than to open up fresh channels of invasion by assault with small dip sponges poked into and scrubbed over conceivable pockets,—then many cases of peritonitis will yield to surgical treatment and the physician will quickly learn to refer such cases to the surgeon, who alone can bring relief.

With reference to the sponge, I like to insert a large gauze pack well around the operative field, and deep enough into the cavity to make it effective in catching the detritus which may reach it by gravity. The enclosed field of operation can be successfully sponged during the operation, and when the necessary work is completed, the packing gauze is removed. No further manipulation is allowed, for it is my conviction that further sponging and examination is not surgery, but curiosity, and can only work harm to the patient.

In the after treatment of operative interventions, superimposed upon a peritonitis, there is one condition that must be constantly kept in mind, and that is the state of dehydration of the patient. Peritonitis appears to induce a state of exosmosis confined not only to the serous surface affected but also to the whole of the digestive tract. The patient who drinks but a few ounces of fluid, surprises his friends by vomiting much more than he has ingested. The enormous loss of fluid from the skin, the kidneys and the mucous surfaces will in itself call for an abundant supply, but when we

consider that absorption from the stomach and the intestinal tract is entirely arrested, then we can understand the cause of the symptom complex which quickly supervenes and indicates approaching dissolution.

The experimental work of McLean which established the proposition that death in acute ileus is not due to absorption of toxins from the intestinal tract, and that a dog with complete ileus when supplied with saline solution sufficient to keep up the blood's volume, will die at about the time that death would be produced by starvation, whereas he would only live two or three days without the saline; this, I say, was an epoch making discovery in the treatment of all forms of peritonitis, and it enables the surgeon to undertake operation in countless cases in which the patient is believed to be moribund previous to the giving of the fluid.

No case should be considered hopeless until the veins have been filled with fluid and there has been no response. The giving of strychnia, nitroglycerine, etc., is nonsensical and no benefit will accrue from their use. If there were but one remedy to be chosen for the treatment of a peritonitis due to a perforation, and which had been operated upon, I would choose the saline solution, and feel that in the loss of all others, my patient would not suffer greatly.

THE APPLICATION OF UNIVERSITY EXTENSION METHODS TO CERTAIN LINES OF MEDICAL PRACTICE.

BY JOHN R. TAYLOR, M. D.,
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Our great state educational institutions furnish us with a striking example of the way in which the benefits of recent discoveries and original research may be carried to the doors of the people in country towns and villages.

Here in Wisconsin the Extension department of the state University is carrying on a varied and increasing number of activities, all calculated to serve the people of the state in many practical ways by bringing the work of the university to their very doors. For example, the educational possibilities of the motion picture are already being successfully utilized. But perhaps the most striking demonstration of the nature of these extension courses is seen in the agricultural department, which gives instruction to farmers on such live subjects as dairying, poultry raising, live stock judging, etc., etc. In some states whole railroad trains, consisting of as many cars as needed, have been engaged for this work and sent through the country towns. All the necessary machinery and apparatus, together with live stock, have been systematically arranged on these trains, making them practically schools on wheels.

It would seem that this idea is capable of being applied to many other useful and much needed services; and, in fact, steps are already being taken to extend the benefits of medical research to rural communities. In Wisconsin a Bureau of Health has been organized to give popular instruction to the public in general health matters, such as hygiene, sanitation, water systems, sewage, etc. Sanitary surveys of towns will be made, with a view to drawing up useful plans and regulations for better health supervision. Portable health exhibits are to accompany the lecturers for demonstration purposes.

Why should not the needs of small communities in regard to other lines, such as certain kinds of medical work, be provided for by similar methods. For example, the benefit of medical knowledge in some of the specialties, such as eye, ear, nose, and throat, and the fitting of glasses, have not yet been extended to small towns and rural communities. Instead of compelling these people to journey to the larger cities for such service, why should not such service be taken to them. Local societies, such as those which are usually organized for the purpose of arranging university extension courses, securing lectures, etc., or even these same societies, could arrange with properly qualified specialists to visit the towns on certain days. The matter of compensation could be decided in one of two ways. The specialist could be engaged for a stated sum, regardless of the number of patients, or per capita, according to the work done. By reference to a scale of fees and the special cases needing attention, an approximate idea might be gained of the amount that could be raised to secure the services of a first-class man. Of one thing we may rest assured; such an arrangement would not only afford the best protection and the best service for the patients, but would result in an enormous saving over present cost. More than one traveling quack has grown rich by taking advantage of country patients.

The main objection hitherto made against a good man going into this sort of work has been the risk of hurting his standing in the profession.

Some have thought that it savored too much of

itinerant quackery; or looked too much like going after business instead of waiting for business to come, which seems more in keeping with the dignity of the profession and of medical ethics.

On close examination, however, these objections are not so serious as they appear. When a business can be conducted in an honest and honorable manner, with advantage to the public and with reasonable gain to the one who carries on the business, the only ethics worth considering are those which afford proper protection to the public and to the one who does the business.

If it can be shown that certain lines of work are of distinct benefit to the people, it is certainly a privilege if not a duty to carry this benefit to them. This is the prime principal in university extension work.

The method and motive of every line of business determines its real value and character. The value and beneficial character of the work being established, there can be no loss of dignity to any one engaged in such service nor any conflict with ethics, medical or otherwise.

The university men of education and culture who accompany the trainloads of cattle, hogs, or poultry, on their way to instruct the farmers are evidently not worrying about the question of dignity. They do not need to; the dignity is all on their side. And, what is more important, the farmers are reaping the benefit and through them the people at large.

It is, of course, the university that sends them out which gives substantial endorsement to the work of these men and helps to enhance the value and dignity of the service. If the specialists who are willing to enter medical extension work could have some such responsible authority as the state or an association back of them, this arrangement would afford not only a very effective protection to the men engaged in this work, but to the public itself. It would save the doctor from suspicion of being a quack; it would preserve his dignity; and would leave no room for worry on the question of medical ethics.

More important, however, would be the protection that such an arrangement would afford the public. The extent to which the people in country places have been victimized and imposed upon by incompetent and unscrupulous so-called eye doctors is simply appalling. The worst of this is that the burden of the imposition falls most heavily on those who can least afford it. It may be due to ignorance, inability, or economy,—very often a combination of all three. They do not realize the possible consequences, and to save real or fancied expense, and the inconvenience of visiting competent city specialists, they seek the aid of some travelling optican, until the defect becomes so far advanced that the cost of correction is many times what it would have been if taken in time by a qualified oculist, while the fee paid to the quack is worse than thrown away. The well-to-do save themselves much pain and expense by immediate attention to their ills. "A stitch in time saves nine." It often happens that a few treatments will correct the trouble. The poor often pay heavily for their neglect, and ofttimes have to take a long course of treatment with doubtful or imperfect results.

A sad case, like many of its kind, may be cited. A boy of twelve was brought in by his father to have a change of glasses. His eyes had troubled him since childhood. Not until it became almost impossible for him to read had the father endeavored to secure glasses for him, and even then had purchased a pair from an optician because he could get them cheaper. A glance at the boy's retina told the sad story. There were several places where the retina was becoming detached from the eyeball. For years he had been wearing the wrong glasses, so that the delicate membrane had become overstretched and had left the boy almost blind and beyond the power of the most skillful oculist to correct. The boy's father is now well-to-do, and is willing to pay anything to have his son's sight made good, but that is impossible. The boy's eyes will never be the same again; he will be handicapped for life.

Prevention is better than cure. It is cheaper than cure. In this case there is no cure. Had the father known this he would never have neglected the boy's eyes so long. There are many other fathers like this one. They do not realize the importance or seriousness of these things until too late. Nor will they know unless some one tells them. These matters are discussed in our medical meetings, but they never reach the ears of the people. The very ones who ought to be warned about them never know until too late.

Is it not the duty of the medical profession to try and do something to prevent such things?

To allow these conditions to continue without some effort to correct them makes us morally responsible for the consequences. Furthermore, as a

result of our neglect, a class of itinerant quacks has arisen who are not only reaping a rich harvest from the misfortunes of country patients, but are also doing a great deal of harm. In the matter of fitting glasses, there has been no restriction whatever upon the extent or methods of their operations.

In some states they have formed organizations and have persuaded the legislatures to pass bills recognizing them as a profession and legalizing their work! They have given themselves the name of optometrists, and so-called schools of optometry have been started, which are little more than diploma mills, whose sole object seems to be to turn out graduates as soon as possible, label them Doctors of Optometry, and thereby secure the five or ten dollars which these diplomas cost.

In some cases I have known these men to secure their diplomas entirely by correspondence. By the use of these diplomas and through the official licenses easily secured in some states, these men are rapidly bringing about conditions which make it practically impossible for the people to discriminate between these who are properly qualified and those who are not.

They do not hesitate to put "Dr." before their names, and make free use of such terms as "Eyesight Specialist," giving the impression that they are thoroughly qualified to recognize all eye troubles, even diseases, and are prescribing glasses in thousands of cases, entirely ignorant of the actual conditions, with the result that the patient sustains serious and in many cases irreparable damage to the eye. They do not hesitate to prescribe medical treatment whenever it suits their purpose. The optical journals published in the interests of this class are openly advertising eye lotions, ointments, etc., for these men to prescribe.

I came across a case of this kind some time ago. The optician had put up at a country hotel. Through the newspapers and hand bills he had thoroughly advertised himself throughout the town as "Dr. Bersee, Eye Specialist from St. Paul." A farmer to whom he sold glasses for eight dollars came back the next day, saying he could not use them. The "Doctor" pretended to make another examination and then told the man that his eyes really needed treatment, and actually succeeded in getting five dollars more for the ointment which he sold him.

When I learned all the facts in this case, including legal proof that the man was not even a so-called optometrist, I had him arrested and fined under the laws of the state for practicing medicine without a license.

Another case was that of a boy suffering from syphilitic interstitial keratitis. An optican had put on glasses with the assurance that they would cure him.

Another was that of a man suffering from Bright's disease. Here again, an optician had given him glasses with the usual guarantee that they would be exchanged until the right ones were found. He had been led to the optican by the following advertisement:

"You should wear glasses if your sight is poor, and you know it."

This is not true, as we have seen. Poor sight may come from poor kidneys. Medicine, not glasses, is the remedy, and only a competent oculist can diagnose the case. It is a peculiar condition of things which permits the public to be imposed upon and robbed in this way. I see no difference between obtaining a man's money by misrepresentation of this sort and openly stealing his watch.

Some of the frauds practiced upon the public by these men are of the most impudent character. Fake conventions is one of the latest; these are gotton up solely for the purpose of affording these fakers an opportunity to pose in the public eye as "prominent specialists." These conventions are extensively advertised in the daily newspapers and by means of programs. That it is the deliberate intention of the promoters to deceive the public is proved by the manner in which they go through the pretense of discussing eye trouble of a purely medical and surgical character along with subjects pertaining to the fitting of glasses. The following subjects are found in the program of a fake convention held in Milwaukee, July 26th to 30th, 1911:

"Anatomy and physiology, and the relation of the eye to the nervous system."

"Stereoptical lecture on diseases of the eye which optometrists should understand."

"The nervous system and the therapeutical application of lenses."

"Lecture and free clinical operations on the eye."

"Appearance of the external diseases of the eye, illustrated by drawings."

"Dissection, demonstrating the anatomy and all the principal operations of the eye."

"Free public clinic and discussion of difficult cases. Free prescriptions to patients."

Most of these lectures existed only on the program; the promoters of the convention being incapable of carrying out the farce in reality.

It is the last item which reveals their real object; it is to enable the promoters to sell glasses. Admission to the "addresses" is free, the clinics are free, the prescriptions are free, but the glasses are charged for, and it is here that the promoter makes his money. These promoters are grafters pure and simple. By pretending to be experienced, educated doctors, capable of diagnosing all manner of eye troubles, not excepting diseases and those requiring difficult operations, these fakers counted upon deceiving the public into believing that they were receiving valuable services free of expense, and that all they had to pay for were the glasses. Since their only source of profit was the sale of glasses, it is not suprising that all the "patients" were fitted with glasses whether they needed them or not; and even in the case of those who may have needed them, they were charged far more than they would have been had a competent oculist fitted them.

Is it not time that something was done to protect the public against such imposition?

It is too bad that so many states have been led to give these men official recognition. These states are already suffering from a flood of men who have taken advantage of the state license and optometry diplomas so easily secured for a little cash.

The best way to destroy an evil is to substitute something better for it. And the organization of a medical extension course on the lines I have suggested would do it.

The medical profession has been too indifferent to these things and has allowed conditions to develop which are a positive menace to general health conditions.

The fitting of glasses belongs to the domain of medicine, and only a competent specialist should be allowed to do it, for he alone properly understands the various conditions which affect the vision. As we have seen, poor vision may come from Bright's disease, diabetes, and other diseases. It may come from nasal and sinus defects, and from many other things too numerous to mention, and which only a trained expert can properly diagnose.

Knowing these things as we do, it is our duty to work out the remedy and supply the right kind of men to fill the need. This may call for new methods and new adjustments of our ethical ideas, but if we approach the problem with an open mind in the right spirit, and with a desire to give the public the best we have, at reasonable cost, a way of doing this along the lines indicated can easily be found.

CANCER AND THE CANCER PROBLEM.

BY WILLIAM EDWIN GROUND, M. D.,
SUPERIOR, WIS.

No attempt will be made to go minutely into the cause and pathology of the cancer process. Only enough will be said to indicate the trend modern investigation is taking.

A complete change has been brought about in the last decade in many aspects of the cancer problem, due very largely to Research Funds, both in this country and in Europe. Many able men are devoting their time and an immense amount of money to the end that the ultimate cause of cancer may be discovered. While the definite or specific etiological factor has so far eluded detection, much valuable information has been accumulated with regard to the natural history of cancer.

Taking a comprehensive survey of the incidence of cancer as it affects mankind, we note a wide range of distribution. Those who know best, assert that malignant growths are rarely met with among the savage and uncivilized peoples. These reports come from medical officers, missionaries, and others working among such people, in various parts of the world. Cancer is most prevalent in the highly civilized countries. In these countries it is more frequently met with among the highly nourished and well-to-do. Unlike the great white plague, tuberculosis; the great red plague, cancer, occurs with greater frequency in the over-fed or badly fed, and prosperous individual in middle life. Tuberculosis attacks the under-fed and poorly nourished in the earlier years of life. In this connection it might be well to refer to the fact that no people can be, I am not quite prepared to say adequately nourished, but certainly they cannot be over-nourished without considerable meat in their diet. In this light a high meat diet continued throughout the greater part of life might be said to be conducive to cancer.

In the same country, cancer is of much greater prevalence in some localities than in others, due apparently to the different planes of living as regards a high protein dietary, especially of the flesh foods. Cancer will not flourish in the absence of a good rich blood supply. An attempt to utilize this principle therapeutically was made a few years

ago by Dawbarn, who conceived the idea of ligating the main arterial supply to malignant growths, to retard or diminish their growth.

As a general rule it may be stated the cancer is much more prevalent in the temperate than in the tropical regions. The same conditions prevail with regard to animals. Those living in a wild state are rarely or never afflicted, while those in captivity, or domesticated, or living in close association with man, are often the subjects of innocent and malignant growths.

Given a people whose racial condition and nutritional status does not predispose to immunity, we find other factors the etiological nature of which is clearly established, the enumeration of a few of the most important I shall now undertake.

While the parasitic theory has lately experienced a backset, in my humble opinion there is more in it to explain the phenomena of carcinomatous disease than in any other hypothesis that has been advanced so far.

Fascinating as the field of speculation is, regarding the true materies morbi of cancer, I will not labor the question. Time and space will not permit this, besides the subject is well considered by writers on pathology.

The gist is this: An individual susceptible to cancer, (and there are different degrees of susceptibility,) having the tissues in a certain location sensitized by a chronic irritation, remains only to be activated by the cancer virus. Chronic irritation, well known to be in direct relation to cancer formation, is simply the middleman, serving the producer and the consumer. Except possibly as it relates to sarcoma, a single trauma is not directly incidental to malignant growths. It is the prolonged and repeated physical insult at a definite point, a chronic traumatosis, if you please, that sensitizes the tissues. To my mind chronic irritations and traumata, do not militate against possible protozoal influences, on the contrary they seem to support such a contention. We can easily see that these traumata may only be the means of entrance of the parasite, the trauma weakening the tissue resistance to the extent of furnishing pabulum for the existence of a guest. The fact that chronic irritation, trauma, chronic inflammation, or prolonged attempts at repair in man and animals, are so frequent at the site of cancer development, is so significant as almost to amount to a conviction.

The prevailing site of cancer growth, is in those locations most subject to local irritation, inflammation and microbic invasion. In this connection we will note the locations, where cancer most frequently occurs: The lip, the mouth and tongue, the breast, the cervix uteri, the rectum, the prostate, the stomach and the ileo-cecal region. To make this point all the more striking, a few unfamiliar examples may be quoted: Epithelioma of the abdominal wall is practically unknown to us, yet in Kashmir it is very frequent. During the cold weather the natives carry a basket containing burning charcoal under the clothing for the purpose of warmth. These often cause burns of the lower part of the abdomen and thighs, and as a result of this chronic irritation, a squamous-celled epithelioma develops. American and European women rarely have cancer of the floor of the mouth, but in Ceylon, and India generally, the women are frequently found suffering from carcinoma in this locality, due to the chewing of betel nut and the practice of sleeping with the plug in the mouth. For further argument I might mention other forms of irritation, irritations, not only physical but chemical and actinic. Among these are cancer of the groin and scrotum in chimney sweeps, of the groin in sailors, shinbone cancer in locomotive engineers from years of exposure to direct heat, repeated exposure to the irritating effects of paraffin, petroleum, arsenic, analine, etc. The well known possibility of the development of malignant conditions in X-ray burns is another instance in point. Instances in animals correspond to the brand cancer in cattle, and the horn-cure, a squamous-celled carcinoma, developing at the root of the right horn to which a wagon is attached, met with in India.

Many other examples just as striking could be produced from human and comparative pathology.

In these papers I have made free and easy with the term cancer, to include all so-called malignant growths and pre-malignant conditions.

Virchow, taught that hardly any malignant tumors were of congenital origin. We now know that many, particularly of the sarcomatous type are inborn in origin. That pre-natal developmental anomalies, defects and rests, figure largely in tumor science is a fact that we cannot afford to ignore. As we all know, this is the essence of Cohnheim's theory of tumor formation, and it is an essential ingredient of well constructed tumor theories. And as any tumor growth, however supposedly innocent, is at least a step toward malig-

nancy, in order to gain a comprehensive and intelligent knowledge of malignant disease, it is highly necessary to study the whole tumor question in connection. For instance, such plebeian formations as warts and moles, may be carried around from early life by their possessors only to ultimately undergo malignant change in later life. This was forcibly pointed out by Keen several years ago.

As these papers are dealing particularly with the prophylactic phase of the subject, I have aimed to cast my net far and wide. Special stress will be laid upon those border-line conditions, which though perhaps not primarily malignant are more or less liable to become so. With this object in view, the different regions of the body will be studied, as for example the skin, the mouth and tongue, the breast, the gastro-intestinal tract, and the genito-urinary organs of both sexes, with a final chapter on the technic of cancer operations.

While it is perhaps not possible to clearly differentiate between, innocent and malignant lesions in all cases, it has been found expedient to make the attempt. And while these studies are based largely upon clinical observations, I wish it distinctly understood that no line of diagnosis is to be slighted. Especially is the microscope to be commended, for without the microscope little would be known regarding the identity of tumor formations.

Just as it has been found of great practical value to distinguish health and disease in non-neoplastic conditions; it will be of essential benefit to identify benign and malignant neoplasms. At times this differentiation is hard to make, as the line that lies between the normal and abnormal is getting finer and finer as our knowledge increases.

So with tumor genesis, the deeper we study into the matter, the less dogmatic we become, and our inclination to vault a conclusion, correspondingly diminishes, whenever the subject of borderline cases comes up. The fallibility of the human senses should not be lost sight of, and when in doubt the patient should be given the benefit.

When the character of each tumor is well established, Mr. Bland Sutton's definition is very appropos: "The baneful effects of innocent tumors depend entirely upon their environment, but malignant tumors destroy life whatever their situation."

Apparently this is so as regards a purely innocent tumor. We can readily understand how an innocent growth in the larynx might cause death by suffocation, likewise simple enlargements of the thyroid. Simple ovarian cysts and uterine fibroids may cause a fatal issue by pressure on surrounding organs, or by the twisting of a pedicle, or they may become infected. I recently did a Cesarean operation upon a woman who was almost moribund from a prolonged attempt by the attending physicians to effect delivery through a birth canal that was obstructed by a chondroma growing from the hollow of the sacrum. Innocent tumors may be possessed of a limiting capsule, but inside this capsule malignancy may develop. This is the milk of the cocoanut: Well defined growths of typical character are easily recognized, but it is the potential malignancy in tumorous growths that should command our attention.

As someone has said: "As a rule the easier the diagnosis, the worse the prognosis" and in cancer this is certainly true. Mr. Cathcart thus summarizes his views regarding the fatal methods of malignant tumors.

(a) By excessive local growth, whereby the tumor absorbs for its own use nutriment which would otherwise have supplied the normal tissues.

(b) By degeneration and hemorrhage, whereby the blood is deteriorated and wasted.

(c) By local dissemination, in which case the tumors sends offshoots into the surrounding tissue at a little distance from itself. These offshoots form new centers of growth, and thus act like an excessive overgrowth of the original focus in exhausting the patient.

(d) By infiltration of the surrounding tissues, the tumor invading and destroying all the structures which it touches.

(e) By lymph dissemination, whereby new foci of growth are carried by the lymph vessels to the adjacent glands, where they stop and begin work afresh.

(f) By blood dissemination, whereby the blood is the agent by which the foci are distributed to different parts of the body.

These various ways of causing death may not all be present in the same case. Those which have been placed first, are associated with the less malignant forms of tumor, and those at the end of the list with the more malignant forms.

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EDITORIALS

AN EXPLANATION AND AN APOLOGY.

In the June issue of the Journal there appeared, in the Dodge County Medical Society's report, a statement reflecting upon the methods used by Dr. B. C. Tarnutzer of Beaver Dam in his campaign for the position of city physician. In some unaccountable manner, the statement in the report printed was at variance with that actually issued by the secretary, and purported to ascribe motives to Dr. Tarnutzer which were not in accordance with facts. We therefore take this opportunity to make the above explanation, and desire to assure Dr. Tarnutzer that the expression voiced in the Journal was an inadvertence, and had no malicous intent.

OUR ADVERTISING PAGES.

Have you looked over the advertising pages of *your* Journal lately? Just remember that it is *your* Journal and they will take on an added interest. These pages are clean from cover to cover. They are Class A1. The advertisers who are making it possible to publish the Journal at its present cost are paying their money because they want the readers of the Journal to know what they have to sell. They are reputable firms conducting their advertising in an ethical manner.

Read what they have to say and if you have occasion to write to them *Mention The Journal.*

THE ANNUAL MEETING AT OSHKOSH.

The annual meeting of the State Medical Society will be held in Oshkosh October 7th, 8th and 9th, and promises to be a meeting long to be remembered. Oshkosh is an ideal convention city, centrally located, and the arrangement committee has been fortunate in securing the beautiful and spacious new Fraternal Reserve Association Building for the meetings. They assure us of every comfort, a social program unsurpassed, and the best scientific and commercial exhibit yet seen at a state meeting.

The preliminary program, printed in this issue, is the result of weeks of work by the chairman, Dr. Edward Evans. He is to be congratulated, for none in recent years has given promise of better results. The scheme of concentrating each session on one particular subject and covering it thoroughly is new. The first session will be given to social medicine, a much neglected subject. The second and third sessions will consider infections and fractures, subjects of vital importance to the general practitioner. The fourth session will be held in conjunction with the County Secretaries' Association and will consist of papers and addresses on medical economics, ethics, legislation and organization. Every man is interested in these subjects and it is anticipated that the last day will be as well attended as the second. Such men as Billings, Vaughan, Rosenow, Colvin and Craig should draw nearly every member to Oshkosh for it is seldom that so many prominent leaders in modern scientific medicine are brought to our meetings from away.

The House of Delegates will convene as usual Tuesday Evening, October 6th. Several most important matters must be decided. The past year has

brought another increase in malpractice suits largely due, no doubt, to the workmen's compensation act which has forced the "shyster" lawyer to find a new field for his nefarious practices. The medical defense feature has been a success in every way except financially. It is difficult to furnish for two dollars a value which insurance companies have had to raise from fifteen to twenty-five dollars. The constantly increasing number of actions is creating another deficit and if medical defense is to be continued a new arrangement must be made. There is a strong sentiment to divide the scientific program into sections and this subject must be given consideration and a decision reached. So please see that your delegate is in attendance and is prepared to present your views.

MAKE YOUR PLANS NOW TO ATTEND EVERY SESSION OF THIS MEETING. YOU OWE THIS TO YOURSELF, TO THE PATIENTS AND TO YOUR PROFESSION! POST THIS SIGN IN YOUR OFFICE NOW:

I WILL BE IN OSHKOSH
on
OCTOBER 7th, 8th and 9th
IN ATTENANCE AT
THE 68th ANNUAL MEETING
of the
STATE MEDICAL SOCIETY
OF WISCONSIN.
This trip is made in your interest!

R. S.

"PAINLESS LABOR OR THE TWILIGHT SLEEP."

In view of the recent boldness on the part of certain German physicians in the exploitation of American motherhood, through the medium of our popular magazines, we would hardly be surprised to see opened in our larger cities, parlors bearing in great gilt letters on doors, windows, and on the uniforms of the customary attendants at the street entrance, the alluring caption: *Painless Infant Extraction.* The effusion appearing in the June issue of McClure's Magazine was read, pronounced technically correct, and consent to its publication granted, by the eminent physicians featured in this "message to mothers."* The article appears to lack two elements characteristic of such literature, namely: a secret formula and a price list. However, Steffen of Dresden, Hocheisen of Berlin, and others have been unable to discover the method of securing the "requisite quiet and darkness." Only at Freiburg, by Drs. Krönig and Gauss, we are told, have these essential elements been secured. A price list would undoubtedly be mailed promptly on request.

Other periodicals have published glowing articles composed largely of descriptions of the quaint old city of Freiburg with its picturesque surroundings, photographs of the operators, hospital buildings, smiling mothers and surviving children from infancy to seven years of age. Is it expected that this is to be taken as proof of the harmlessness of the Freiburg technique? Since such material is being offered in evidence, Science demands the photographs of *all* the mothers and *all* the babies who have suffered under the drug which so many noted authorities have pronounced *poison.*

Because of the fact that the use of scopolamine and morphine in surgery received at one time the serious consideration of reputable scientific workers, and in view of the fact that a new hope has been falsely raised in the minds of American womanhood, it may be timely to recount the disadvantages met with in the experiences of the majority of European and American surgeons who have extensively tested the "twilight sleep."

In 1910, Robert A. Hatcher, Professor of Pharmacology in Cornell University, studied thoroughly the therapeutics of scopolamine and morphine and reported the results of his work to the Council on Pharmacy and Chemistry of the American Medical Association. In this report was given the research of H. C. Wood, Jr., who found that in 23 cases of death in 1988 cases of scopolamine and morphine narcosis, 9 were directly attributable to the use of the drugs; that the death rate was 1 in 221 as against 1 in 1500 where the anesthetic agent had been ether.

Steffen, Hocheisen, Leopold and Viet, all illustrious authorities, uniformly reported that labor is usually prolonged, because of delayed uterine reflexes frequently necessitating the performance of version or the application of forceps, to accomplish delivery; that from the relaxed, atonic condition of the uterus, post-partum hemorrhage was more frequent; and that all the children were born

*See Journal American Medical Association, June 13, 1914, p. 1912.

more or less asphyxiated. This is to be expected from the experiments of Holzbach, who found that scopolamine passes across the placental circulation and appears in the urine of the new born child. It was also found that the drug is excreted for variable periods in the colostrum of the parturient woman. Most dangerous of all, however, is the wide variation of individual reaction to a standardized preparation of scopolamine. In 69% of the cases, according to Wood, the anesthesia was unsatisfactory, small doses even increasing sensitiveness and causing active delirium. Gauss, himself, reports having to tie the hands of seven patients in order to control them. A death has been reported following the administration of 1/200 gr. of scopolamine. Nevertheless Gauss states that rarely is so small a dosage sufficient to secure the "twilight sleep." On the other hand, he reports a case requiring the administration of 1/8 gr. of scopolamine, and 1/2 gr. of morphine, over a period of 57 hours until labor was terminated. After a careful study of the pharmacology and therapeutics of scopolamine and morphine in surgical anesthesia, Wood concludes that it must be a very reckless or ignorant surgeon who will persist in their use.

The question is being frequently asked, "Why do not you American doctors learn to give the wonderful "twilight sleep?" We may answer that many have already visited Freiberg for that purpose, but do not approve of the practice, for reasons now well known to the medical profession. It is indeed to be feared,—that twilight sleep of mother and babe which may so easily pass into the black night for which the dawn is in another world. In the words of Seiber, "Also Weg bei der Narkose mit diesem unberechenbaren, meist nutzlosen, gefährlichen Gifte." ("Away with narcosis by this uncertain, mostly useless, dangerous poison.")

MORE LIGHT ON THE "TWILIGHT SLEEP."

Accounts of personal experiences with the "Twilight Sleep" are beginning to find their way back to America and some of them are of a character very different from those which have appeared in several of the popular magazines. One narrative which has come to our ears is worth recounting as the mother in question had been a trained nurse before her marriage and so was able to watch the proceedings with an intelligent interest.

In this instance labor pains began as usual and gradually increased in intensity. When a considerable degree of severity had been reached a hypodermatic injection, presumably scopolamine and morphine, was given to the patient. No effect whatever was discernible so after an interval a second injection was given. The pains continued exactly as before and after a short time the patient was taken to the delivery room, *given ether,* and *kept completely anesthetized with ether* until after the child was delivered, a period of considerable length, although the exact time could not be ascertained.

On the following day the mother was asked by the smiling physician if she remembered anything about it and if the twilight sleep was not a wonderful affair!

This mother also volunteered the information that she had talked with a number of other women who were delivered in the hospital at Freiburg during her stay there and that their experiences coincided exactly with hers.

THE EUGENIC MARRIAGE LAW.

The Supreme Court of Wisconsin on June 17th reversed the decision of Judge Eschweiler of Milwaukee who had declared the Eugenic Law Unconstitutional.

While this decision settles the question of the constitutionality of the law it does not in any way lessen the difficulties which confront the conscientious medical man when he is asked to pass upon the fitness of a candidate for matrimony.

The language of the present statute requires the physician to make statements which are flat perjury in most instances. If the law is to be retained on the statute books the wording of the physician's certificate should be modified by the omission of the words "having applied the recognized clinical and laboratory tests of scientific search".

These words are utterly meaningless under the present interpretation and simply give a false sense of security.

MIXING BUSINESS AND POLITICS.

In 1909 Thomas Morris of La Crosse was a State Senator. Here is a copy of his letterhead at that time:

THOMAS MORRIS, SENATOR 32ND DIST
FRED H. HARTWELL

TELEPHONES: OFFICE NEW 240
FRED H. HARTWELL
RESIDENCE, NEW 557-R, OLD 4123

CABLE ADDRESS "MORRHART"
WESTERN UNION CODE

NATIONAL COUNSEL FOR UNIVERSAL CHIROPRACTORS' ASSOCIATION

MORRIS & HARTWELL
LAWYERS
LINKER BLOCK, LA CROSSE, WIS.

At present he is the Lieutenant Governor of Wisconsin and uses the following letterhead:

THOMAS MORRIS, LIEUT. GOVERNOR OF WISCONSIN FRED H. HARTWELL

MORRIS & HARTWELL
LAWYERS

NATIONAL COUNSEL FOR UNIVERSAL CHIROPRACTORS' ASSOCIATION

CABLE ADDRESS "MOORHART" WESTERN UNION CODE
LINKER BLOCK, LA CROSSE, WIS.

Thomas Morris is a candidate for the republican nomination for United States Senator and he is now busily engaged in presenting his claims for this honorable office to the voters who are to decide upon the candidates at the forthcoming primary election.

It would be interesting to get Mr. Morris's views upon the form of letterhead he would use should he be chosen to fill this great office.

But seriously these letter-heads have a meaning. They show the man as he is. They present his views of what is right and proper for a public official.

The firm of which Mr. Morris is the senior member has been the National Counsel for the Chiropractors for a number of years. The bills introduced at the last session of the legislature which were designed to give the Chiropractors a free hand in this state, were drawn in his office. He has worked faithfully for his clients the Universal Chiropractors' Association. Has he worked as faithfully for his clients the people of Wisconsin? We do not think so.

His ideas, if put into effect, would lead to a relaxation of supervision and control where they are still tremendously needed. Regulation is often very disagreeable for those who are being regulated, but that does not prove that it is needed any the less.

Mr. Morris has utterly failed to understand that the medical profession is striving to protect, not itself, but the public at large.

No doubt Mr. Morris has a right to put anything he pleases on his letterheads, perhaps he has precedents for thinking of the welfare of his private clients even when holding the high public office of Lieutenant Governor, but what he has done and what he has said must make the thinking medical men feel that he is utterly lacking in the breadth and loftiness of view of public office which should enter into the make-up of a United States Senator from Wisconsin. We feel that Mr. Morris should be actively opposed by every member of the medical profession in the State.

SIXTY-FIFTH MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The sixty-fifth annual meeting of the American Medical Association was held at Atlantic City June 22-26 and witnessed the gathering of 4,300 physicians. Accommodations, weather, amusements, and a splendid scientific program all helped to make it one of the most successful meetings in the history of the organization.

House of Delegates.

The house of delegates convened on Monday morning and was in session each day throughout the week. Wisconsin's delegates were in attendance at each session. Reports of the standing and special committees, giving in detail the work of the past year, were read the first day. Their length precludes their publication in the journal and we will but mention some extracts from them.

The Council on Public Health brought in three important recommendations: the first calls for a thorough investigation of public health conditions throughout the United States. The second asks that every available means be used to educate the public. The sum of $30,000 was spent during the last year for this purpose. The third is to secure the support of the public in securing the enactment of public health laws.

The Council on Medical Education reports that in place of 160 medical schools there are now only 100. The adoption of a hospital year of study was recommended and State Boards were urged to require it for a license after 1918.

A new kind of fellowship to be known as "Affiliated fellows" was created to care for fellows over sixty-five years of age who have been fellows for fifteen years and by infirmity are unable to meet their annual dues.

A committee was appointed by the President to investigate and report at the next meeting on a plan for a reorganization of sections and section work. It is conceded that some of the sections may well be disbanded and that others are carrying too heavy a load.

The report of the Secretary shows the fellowship of the A. M. A. to be 41,029, a gain of 3,116 over last year. The comprehensive report of the Board of Trustees indicates the various activities of the Association and brings out the impressive facts that no other national organization is doing as much altruistic work as is the American Medical Asso-

ciation. About seventy-five per cent. of the entire expenditures is absolutely for altruistic purposes. This is made possible largely by the profits of the Journal. The Journal now has an average weekly circulation of 60,000. The work of the Council on Pharmacy and Chemistry, which is doing so much in its fight against fraud, was highly commended.

A medico-legal bureau has been established recently and will keep in touch with the various legislatures. Its main purpose is to secure and give out accurate information on proposed laws and on legislation that has been tried out in various communities.

The following officers were elected by the House: President-Elect, Willian L. Rodman, Philadelphia; 1st Vice-Pres., D. S. Fairchild, Des Moines, Ia.; 2nd Vice-Pres., W. R. Townsend, New York; 3rd Vice-Pres., Alice Hamilton, Chicago; 4th Vice-Pres., W. E. Darnall, Atlantic City. Secretary Alexander R. Craig and Treasurer W. A. Pusey were re-elected. San Francisco was selected as the next place of meeting.

R. S.

PRELIMINARY PROGRAM.

68th Annual Meeting,
State Medical Society of Wisconsin,
Oshkosh, Oct. 7-9, 1914.

Wednesday, October 7.

Afternoon Session, 2. P. M.

Social Medicine.

1. Annual Address of the President.
   Chas S. Sheldon, Madison.
2. Our State Boards of Medical Examiners.
   J. M. Beffel, Milwaukee.
3. Medical Education—A Retrospect and a Forecast.
   J. Van de Erve, Milwaukee.
4. Our State Tuberculosis Sanitarium and the Tuberculosis Problem.
   J. W. Coon, Wales.
5. Deduction Drawn from the Examination of 5,000 Students at the University of Wisconsin.
   Robt. Van Valzah, Madison.
6. Social Insurance and the Medical Profession
   Prof. Commons, Madison.

Thursday, October 8.

Morning Session, 9 A. M.

Infections.

7. Pneumococcal Infections.
   H. E. Wolfe, La Crosse.
8. Infections of the Nose, Throat and Accessory Sinuses, Their Importance to the General Practitioner.
   Franz Pfister, Milwaukee.
9. Cryptogenic and Allied Infections of Surgical Import.
   R. H. Jackson, Madison.
10. Puerperal and Other Pelvic Infections.
    Daniel Hopkinson and W. G. Darling, Milwaukee.
11. Vaccine Treatment of Various Infections.
    Edw. C. Rosenow, of the Memorial Institute for Infectious Diseases, Chicago.
12. *Address in Medicine. Focal Infections and their Relation to Systemic Diseases.*
    Frank Billings, Chicago.

Thursday, October 8.

Afternoon Session, 2 P. M.

Fractures.

13. Pathology of Fractures, Delayed Union, Non-Union, Nerve Injuries, etc
    Herman F. Derge, Eau Claire.
14. Open Treatment of Fractures.
    A. Gundersen, La Crosse.
15. Fractures of the Skull.
    C. A. Evans, Milwaukee.
16. General Principles Underlying the Treatment of Fractures.
    Chas. H. Lemon, Milwaukee.
17. *Address in Surgery. Diagnosis of Disease and Injuries of Joints.*
    A. R. Colvin, St. Paul.
18. Colles Fracture.
    Otho Fiedler, Sheboygan.
19. Fractures About the Elbow Joint.
    W. E. Fairfield, Green Bay.

Friday, October 9.

Morning Session, 9 A. M.

Ethics, Economics and Organization.

20. Medical Economics.
    W. F. Zierath, Sheboygan.
21. Medical Legislation.
    Hon. A. C. Umbreit, Milwaukee.
22. Existing Laws and Needed Legislation in Constructive Care of the Poor and Mentally Irresponsible.

Mrs. Katherine L. Van Wyck, Secy. Associated Charities, Milwaukee.

23. The Relations of the State University to the Medical Profession.
Dean C. R. Bardeen, Madison.

24. *Address.—Medical Ideals.*
Victor C. Vaughan, Pres, A. M. A., Ann Arbor, Michigan.

25. *The work of the A. M. A.*
Alexander R. Craig, Secy. A. M. A., Chicago.

MEETING OF THE EYE, EAR, NOSE AND THROAT SPECIALISTS.

The first annual meeting of the Eye, Ear Nose and Throat Specialists of Wisconsin will be held in Oshkosh, Wis., on October 8th and 9th, 1914, under the auspices of the Milwaukee Oto-Ophthalmic Society.

The headquarters will be at the Athern Hotel and the clinical and operative work will be held at St. Mary's Hospital.

Dr. H. S. Gradle of Chicago will deliver the principle address on the Eye.

Dr. Joseph Beck of Chicago will deliver the principal address on the Ear, Nose and Throat.

The program is not completed but the following members have signified their intentions to read papers: Dr. L. P. Allen of Oshkosh, Wis.; Dr. L. M. Willard of Wausau, Wis., and Dr. J. A. Bach, Dr. N. M. Black, Dr. W. E. Grove, Dr. S. G. Higgins, Dr. F. Pfister and Dr. C. Zimmermann of Milwaukee.

G. I. Hogue,
Secretary.

NEWS ITEMS AND PERSONALS

Dr. W. C. F. Witte, Milwaukee, has recovered from a recent illness, and resumed his practice.

Dr. George D. Beech, Baraboo, has been appointed surgeon for the Northwestern employees at Adams. He succeeds Dr. Wm. G. Domann, who retires because of ill health.

Dr. A. M. Kersten, De Pere, fractured his ankle on July 10th.

Drs. Harry J. Heeb and U. J. Durner, Milwaukee, have left for an extensive tour through Europe. Dr. Heeb will return to Milwaukee in October, while Dr. Durner will remain a year or more.

Dr. C. W. Morter, Milwaukee, has announced his candidacy for county coroner on the Republican ticket.

Dr. Solon Marks, Milwaukee, observed the 87th anniversary of his birth on July 14th.

Dr. W. C. Watkins, Oconto, has been appointed on the medical staff of the 2nd Wisconsin Infantry, W. N. G., with the rank of lieutenant.

Dr. James Malone, West Allis, had a narrow escape from serious injury, when his automobile ran into a ditch and overturned.

A suit for $5,000 damages has been brought against Health Commissioner, George C. Ruhland, Milwaukee, by Arthur Lawless, who claims that his daughter, ill with small-pox, was taken to the isolation hospital in a vehicle used for the transportation of patients infected with other diseases, and that the health commissioner knew that this was done. It is alleged that after the girl had recovered from small-pox, she contracted scarlet fever.

Dr. Neil Andrews, C. J. Combs, F. G. Connell, Oshkosh, and Dr. Kelly of Green Bay have left for a trip to Europe.

Dr. S. B. Ackley, for several years at Dr. Caple's Sanitarium, Waukesha, has opened a sanatorium at Oconomowoc for the treatment of nervous diseases.

Dr. John J. McShane, has been elected commissioner of public health for Kenosha.

Dr. C. F. Dougherty, Richland Center, has been appointed pension surgeon at that place.

The Loyal Order of Moose plans establishing a $500,000 tuberculosis sanatorium in a western city in the near future.

"Dr." Dan R. Schiller, who has operated in Beloit, was arrested in Rockford on complaint of postal inspectors, who charge him with using the mails to defraud.

President Arthur T. Hadley of Yale on June 16th announced that pledges of $1,725,000 have been secured for the new endowment of the medical school and its proposed alliance with the New Haven General Hospital.

On July 16 and 17 the second biennial conference of health officers in Wisconsin was held in Madison. About seven hundred delegates and visitors attended. The preservation of health and the prevention of disease was discussed from every

angle by experts. Headquarters during the convention were in the assembly chamber.

Dr. W. F. Lorenz, who was granted a leave of absence from his duties at the State Hospital for the Insane at Mendota, in order to carry on an investigation of Pellagra for the United States Public Health Service, is engaged upon some studies of the subject at Milledgeville, Ga., which are of so promising a nature that his leave of absence has been extended for an additional two months by the Board of Control, upon the urgent request of the Surgeon General of the United States Public Health Service.

Dr. T. J. McCrory, Racine, is at St. Mary's Hospital, suffering from abscess of the jaw.

At the annual meeting of the State Board of Medical Examiners, held in Milwaukee on July 2, Dr. H. W. Abraham, Appleton, was named president, and Dr. J. M. Beffel, Milwaukee, was reelected secretary-treasurer.

Delivery has been made at Baltimore of securities valued at $1,500,000 presented by the General Education Board to the Medical School of Johns Hopkins University. This gift is to be known as the William H. Welch Endowment for Clinical Education and Research.

The securities were accepted on behalf of Johns Hopkins Medical School by Mr. R. Brent Keyser, Chairman of the Board of Trustees. The actual transfer of the principal of this fund to John Hopkins University signifies that an important and novel feature relating to the gift will have become an accomplished fact, namely, that the organization of the Medical School should be so arranged that the entire income from this fund could be utilized for the support of full-time teaching and research departments of Medicine, Surgery, and Pediatrics, or diseases of children.

The express proposal made by the trustees of the John Hopkins University was that in reorganizing these three departments, professors and their assistants should hold their post on the condition that they become salaried university officials, and that they accept personally no fees whatever for any medical or surgical services which they might render.

The hospital wards and out-patient departments are to be under the control of the university medicar or surgical teachers, but over and above their work in the public wards, the teachers are to be free to render any service required in the interest of humanity and science. They are to be free to see any patient they desire to see.

Patients, however, of the usual private patient type, will pay a reasonable fee to the University, rather than to the professors personally. The time and the energy of the professors are to be fully protected, not only because their salary eliminates financial interest on their part, but because they are themselves to become sole judges as to whether or not particular cases shall or shall not command their personal attention.

In order that the time and energy of the professors thus safeguarded might be properly utilized under favorable conditions, the endowment was made large enough to provide adequate salaries to attract the ablest professors and also to provide them with assistants, well-equipped laboratories, books, and other necessary facilities.

Simultaneously with the completion of the reorganization of the Johns Hopkins Medical School in accordance with this new plan, the University trustees have chosen Dr. Theodore C. Janeway, hitherto Professor of Medicine at Columbia University, to become Professor of Medicine of the Johns Hopkins Medical School, the position once held by Sir William Osler.

The chair of Surgery at Johns Hopkins, under the full-time arrangement, is to be occupied by Dr. William S. Halsted, most of whose surgical career has been passed in the Johns Hopkins Medical school, where, since the establishment of the Johns Hopkins Hospital, Dr. Halsted has been its Surgeon-in-Chief and Professor of Surgery.

The Chair of Pediatrics will be occupied by Dr. John Howland, who was called a year ago from the Professorship of Pediatrics at Washington University, St. Louis, and appointed physician in charge of the Harriet Lane Home for Invalid Children, this institution being the pediatric clinic of Johns Hopkins Medical School.

Johns Hopkins will become the first medical school to be placed upon the full-time basis in all departments. A grant of $750,000 has been made to Washington University, St. Louis, and $500,000 to the Medical School of Yale University upon an understanding that they also reorganize their work so as to put their clinical teaching upon a full-time basis.

The full time scheme is a plan to ensure to hospital work and medical teaching the undivided energy of eminent scientists whose efforts might otherwise be distracted by the conflicting demands

of private practice and clinical teaching. The full-time scheme is an appeal to the scientific interest and devotion of the clinician, and it is significant that the first three full-time posts created have been filled by men of conspicuous professional standing, all of whom have made great sacrifices in order that they might enjoy ideal conditions for clinical teaching and investigation.

It should become of increasing consequence to the public that the training of those studying to become doctors should be in charge of the most competent men obtainable devoting their entire time to this work. Greatly increased efficiency and thoroughness should result, to the alleviation of suffering and the cure of disease.

REMOVALS

Dr. George M. Smith, Mondovi to Chippewa Falls.

Dr. W. T. Boyden of Chicago has located at Green Bay.

Dr. W. H. Lewis, Aniwa to Antigo.

Dr . A. A. Beck, Caloma to Johnson Creek.

Dr. C. F. Werner, Fond du Lac to St. Cloud.

Dr. W. J. Clancy, Eau Claire to Augusta.

Dr. F. W. Olds, Marinette, has disposed of his practice and will locate at Green Bay, where he succeeds Dr. E. M. Olds. Dr. E. M. Olds will remove to Milwaukee.

MARRIAGES

Dr. F. D. Brooks, Fox Lake, and Miss Ellen Sage, New Berlin, N. Y., on July 3rd.

Dr. Geo. T. Hegner, Appleton and Miss Florence T. O'Brien, Fond du Lac, on June 25th.

DEATHS

Dr. Snowdon Fairall, Deer River, Minnesota, a former physician of Superior, died at his home after a brief illness of penumonia, on June 10th, aged 36 years. Dr. Fairall was a graduate of the Iowa University, 1903.

Dr. Edgar H. Neyman, 48 years old, for twenty years a physician at Milwaukee, died on June 8, after a year's illness. He was a graduate of the University of Strassburg, Germany.

Dr. William Hamilton Searles, one of the first specialists to practice in the State of Wisconsin, died on June 9, aged 75 years. Dr. Searles sustained a stroke of paralysis five years ago, which necessitated his retirement from active practice.

William Hamilton Searles was born in Delaware County, Ohio, in 1839. He came to Wisconsin with his parents when a child, and was educated in the State Line and Lawrence Colleges. After graduation at the Chicago Medical College in 1865, he located at Wausau, where he remained 12 years. In 1882 Dr. Searles located at Oshkosh and resided there up to the time of his death.

Dr. James G. Schall, a former Oshkosh physician, died on June 18 at Denver, Colo. Death was due to tuberculosis. Since leaving Oshkosh Dr. Schall had practiced at Denver and Leadville, Colo.

Dr. Harold Houg, Racine, died on July 6, aged 28 years, of tuberculosis. He was born at Racine, and was educated at Garfield and the local high schools, after which he took up the study of medicine at Marquette University, from which institution he graduated. He had practiced at Racine three years.

Dr. W. T. Rinehart, Ashland, died at Chicago, July 2nd. He was a pioneer surgeon in northern Wisconsin, where he established the Rinehart Hospital. He was formerly health commissioner of Ashland. He was a graduate of Jefferson Medical College, Philadelphia, 1886. Member of Ashland County and the State Medical Societies.

Dr. Albert F. Boretti, director of the department of pathology and bacteriology at Marquette Medical School, died on July 17 at Medford, Massachusetts, following an operation on his tonsils, aged 29 years. He was born in Italy and came to the United States at the age of 17 years. He studied at the Boston University and Harvard Medical School. Later he was an instructor at Harvard. He came to Marquette when the medical school was organized. He was a member of the Chicago Pathological Society, Milwaukee County and the State Medical Societies.

Dr. F. B. Mitchell, Withee, died on July 10, aged 46 years. Last February Dr. Mitchell suffered an attack of jaundice, from which he did not recover.

Frederick Bradford Mitchell was born at Hortonville, Wis., Oct. 12, 1867, where he passed his boyhood. He first took up the profession of teaching and was at one time principal of the Hortonville High School. Later he took up the study of

medicine at the Wisconsin College of Physicians and Surgeons, where he obtained his degree in 1904.

Dr. E. J. Farr, Eau Claire, died on July 11, aged 82 years. Edwin Jacob Farr was born, August 24, 1832, in Cornith, Orange County, Vt. He received his early education at Bradford and Thetford Academies, Vt. He read medicine with Dr. Cyrus Carpenter, and received the degree of doctor of medicine at Castleton, Vt., in 1852, after which he attended the New York Medical College and Bellevue Hospital for over two years. The following two years he engaged in the drug business. After one year of practice in White River Junction, Vt., he located in Mauston, Juneau County, Wisconsin, in 1857. During the war he was appointed assistant surgeon Thirtieth Wisconsin Volunteer Infantry. In the autumn of 1869 he located at Eau Claire. In 1881 he was elected mayor of Eau Claire.

Dr. Stella B. Nelson, Oshkosh, died suddenly on June 26 of heart disease, aged 55 years. Dr. Nelson was a graduate of the Northwestern University Woman's Medical School, 1882.

BOOK REVIEWS

THE READY REFERENCE HAND-BOOK OF DISEASES OF THE SKIN. By George Thomas Jackson, M. D., Professor of Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, New York. Seventh edition, thoroughly revised. 12mo, 770 pages, with 115 engravings and 6 colored plates. Cloth, $3.00, net. Lea & Febiger, Philadelphia and New York, 1914.

A new edition of Dr. Jackson's book is always received with pleasure. A good, honest, clear, concise, up to date handling of the subject of dermatology is always to be expected from this source. The black and white illustrations are convincing, but the color photographs could be omitted without detracting from the book. An index of main subdivisions at the beginning of the book would be very welcome. The appendix containing prescriptions and directions for baths and other applications is most useful and I am sure will be welcome to students to whom this book is particularly recommended.

CLARENCE ALLEN BAER.

TREATMENT OF NEURASTHENIA. By Dr. Paul Hartenberg. Translated by Ernest Playfair, M. B., M. R. C. P., Oxford University Press, 35 West 32d St., New York, 1914, p. 283. Price, $2.00.

This is a very readable and interesting discussion of the disease, its diagnosis, causation, management and treatment. The author insists upon accurate diagnosis, taking great pains to differentiate the disease from allied conditions. He considers Neurasthenia a state of simple depression of the nervous system, and physical and intellectual fatigue its most important signs. The condition is possibly due to a cellular disturbance in which exhaustion or intoxication may play a part. In the chapter on causation, he mentions and reviews the physical, emotional and intellectual causes of the disease and also discusses the part played by such infectious diseases as influenza, typhoid, malaria, tuberculosis, lues, etc. He furthermore speaks of intoxications, alcohol, lead, mercury, tobacco and opium, and such organic affections as gout, arteriosclerosis and diabetes and their relations to Neurasthenia. One chapter is given up to a description of the author's methods of examination of a patient. The interrogation of the patient must be carefully and skilfully conducted and special pains taken to avoid suggesting symptoms. The physical examination must be thorough and made in a systematic manner. The major part of the book is devoted to the subject of treatment, which is discussed in great detail. Prophylaxis, course of the disease and prognosis, all receive due attention. Treatment is discussed in a general way, and then follows a chapter in which certain prominent symptoms are taken up and described in detail and special treatment for these symptoms is given. Under general measures, the most important are dietetic and hygienic, physical agencies, medicines, electricity and psychotherapeutics. He thinks hypnosis should not be employed. He rather favors a mild course of procedure and avoids extremes, particularly in hydrotherapy; massage should be general and gentle, complete rest; Wier-Mitchell rest cure or modifications of this form of treatment should be employed in very severe types of the disease. In feeding the Neurasthenic, great stress is laid on the importance of giving an abundance of meats, meat juices and eggs; also large quantities of sugar are recommended. In the treatment of the fundamental asthenia met with, rest and neurotonic medications are recommended. The author relies upon strychnine, which he gives hypodermatically and in massive doses. In fact, strychnine seems to be his favorite remedy. He devotes a chapter to psychotherapy, in which he recommends analysis of and careful inquiry into the various symptoms of the mental aspect of the diseases, the numerous worries, doubts and fears of the patient and the methods of their treatment. In further chapters, symptoms of special importance, such as irritability, restlessness, palpitations, headache, "muscular" headache, vertigo, spinal tenderness, insomnia, impotence, etc., are taken up in turn and discussed, and his treatment, medicinal and otherwise, gone into in more or less detail. Now comes a chapter in which complications are considered and their treatment. A final chapter briefly sums up the book. He again invites attention to his definition of Neurasthenia, which he considers an affection, organic in nature, all of the symptoms of which are by no means auto-suggestive or imaginary.

Dr. Hartenberg's book contains many valuable hints and suggestions and will be found to be both interesting and helpful to any one interested in a disease which has come to be of vast importance in modern times.

EUGENE CHANEY.

RADIUM THERAPEUTICS. By N. S. Finzi, (Lond.), M. R. C. S., L. R. C. P. L. S. A., Chief Assistant in the X-Ray Department, St. Bartholomew's Hospital, London. Octavo, 107 pages. Oxford University Press, 35 West 32nd Street, New York. Price, $2.00.

The author gives in a very simple way the physics of radium emanation, the methods of external and internal applications, the description of apparatus used. This book is very timely and explains the radium subject in so lucid a manner that everyone may have a clear understanding of the why and how of radium radiations.

CLARENCE ALLEN BAER.

SURGERY: ITS PRINCIPLES AND PRACTICE. For Students and Practitioners. By Astley Paston Cooper Ashhurst, A. B., M. B., F. A. C. S., Instructor in Surgery in the University of Pennsylvania; Associate Surgeon to the Episcopal Hospital; Assistant Surgeon to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases. Handsome large octavo, 1141 pages, with 7 colored plates and 1032 illustrations, mostly original, in the text. Cloth, $6.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

The author of this work is already favorably known to the profession by his valuable research and monograph on "Fractures of the Lower Extremity of the Humerus," which won the Samuel D. Gross Prize a few years ago; also as the collaborator of J. B. Deaver in the authorship of "Surgery of the Upper Abdomen."

The present volume is a *new* work in the full sense of the word. While the author acknowledges his indebtedness to other and older publications it is evident that, both for his text and for the illustrations, he has had recourse very largely to his own experience and that of his colleagues, with the wealth of clinical material in the Philadelphia hospitals.

There is an absence of obsolete matter, a clearness and directness of statement, and conciseness without omission of anything essential, that will no doubt establish this work as a favorite among American Surgical text books.

H. REINEKING.

MODERN SURGERY: GENERAL AND OPERATIVE. By J. Chalmers DaCosta, M. D., Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Seventh Edition, Revised, Enlarged and Reset. Octavo of 1515 pages, with 1085 illustrations, some of them in colors. Cloth, $6.00 net; Half Morocco, $7.50 net. W. B. Saunders Company, Philadelphia and London, 1914.

Dr. DaCosta's Surgery is too well known, and has enjoyed too great a popularity, to need any detailed review on the occasion of the appearance of the seventh edition.

This edition, like its predecessors, shows throughout the impress of the strong individuality of the author. The volume constitutes as clear and complete a presentation of the entire field of general and operative surgery as could be condensed in one good-sized volume.

In order to provide space for changes and additions necessary to bring the work fully up to date, the entire book has been reset and the pages enlarged, so as to provide for additional space equal to 250 ordinary pages, without materially increasing the bulk of the book.

THE PATHOGENESIS OF SALVARSAN FATALITIES. By Sanitäts-Rat Dr. Wilhelm Wechselmann, Directing Physician of the Dermatological Department, Rudolph Virchow Hospital in Berlin, Authorized Translation by Clarence Martin, M. D., St. Louis, Mo., pp. 143. Price, $1.50. The Fleming-Smith Company, St. Louis, 1914.

This handbook is one of the most valuable that has appeared on the subject of salvarsan fatalities. It would be well for every physician using salvarsan to study this book carefully. Many salvarsan accidents can be avoided by attention to the details in this book. The case histories, treatments and necropsies in fatal cases by both intravenous and intramuscular injections, are given in detail. This book is an excellent appeal for sane salvarsan therapy. Some cases or poisonings from mercurial treatment are also reported.

CLARENCE ALLEN BAER.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF LABORATORY METHODS. For Students, Hospital Physicians, and Practitioners. By Charles E. Simon, M. D., Professor of Clinical Pathology and Experimental Medicine in the College of Physicians and Surgeons, Baltimore. Eighth edition, enlarged and thoroughly revised. Octavo, 809 pages, with 185 engravings and 25 plates. Cloth, $5.00, net. Lea & Febiger, Philadelphia and New York, 1914.

The recent edition of Dr. Simon's book has been added to and revised here and there, making it quite up to date. This book has been several times reviewed in these columns and we can only add again what we have previously said, viz., that this is one of the most useful of all the books on this subject and we have no hesitancy in recommending it to the profession.

The text is well printed, the illustrations are good and while the recent additions have made the book a little more bulky than one would like to see it, this is really of no particular disadvantage.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, edited by Hobart Amory Hare, M. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia, assisted by Leighton F. Appleman M. D., Instructor in Therapeutics, Jefferson Medical College, Philedalphia. June 1, 1914. Lea & Febiger, Philadelphia and New York. Price, $6.00.

Contents of Volume II.—Hernia, by William B. Coley, M. D., Surgery of the Abdomen, Exclusive of Hernia, by John C. A. Gerster, M. D., Gynecology, by John G. Clark, M. D., Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Thyroid Gland, Spleen, Nutrition, and the Lymphatic System, by Alfred Stengel, M. D., Ophthalmology, by Edward Jackson, M. D.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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NEXT ANNUAL SESSION, OSHKOSH, OCT. 7-9, 1914.

The Wisconsin Medical Journal, Official Publication

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Door	H. F. Eames, Egg Harbor	T. C. Proctor, Sturgeon Bay.
Douglas	C. M. Gould, Superior	W. H. Schnell, Superior.
Dunn-Pepin	L. A. Larson, Colfax	L. A. Dahl, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	D. J. Twohig, Fond du Lac	H. C. Werner, Fond du Lac.
Grant	S. W. Doolittle, Lancaster	M. B. Glasier, Bloomington.
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Waukesha	W. S. Wing Waukesha	S. B. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	L. P. Allen, Oshkosh	H. W. Morgenroth, Oshkosh
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CHIPPEWA COUNTY

Chippewa County Medical Society held its May meeting on the 19th. There was a good attendance. Dr. A. C. Nussle read a paper on "Monsters" which was discussed by Drs. C. A. Hayes, H. H. Hurd and C. N. Abbott, who had met with similar cases. Dr. F. T. McHugh, Chippewa Falls, was admitted to membership. It was determined to hold a picnic at our local park June 9, which has the reputation of being one of the finest in the state. The picnic was held on that day with the majority of the physicians of the county and their families, in attendance. A supper was served by a local organization, the Girls' Home Club, and a local orchestra furnished music during the supper hour. The affair proved so successful that the County Medical Society determined to hold another picnic during the month of August. By invitation of Dr. H. M. Tranckle of Bloomer, the organization will hold an Automobile Run to that city July 7th. The Chippewa County Medical Society has undergone a process of rejuvenation, and it seems highly probable that you will hear from us again in the near future.

A. L. BEIER, *Secretary.*

DOOR COUNTY

Seven members of the Door County Medical Society held a banquet at the Hotel Waldo, Sturgeon Bay. At the annual meeting held in connection therewith, the following officers were elected: Drs. H. F. Eames, Egg Harbor, president; J. Donovan, Forrestville, vice-president; T. C. Proctor, Sturgeon Bay, secretary-treasurer; G. R. Egeland, Ephraim, delegate; E. H. Robb, alternate; Drs. Wagener, Gotham and Eames, censors.

IOWA COUNTY

The Iowa County Medical Association held its annual meeting at the Iowa County Asylum, Dodgeville, and was entertained by the superintendent. A fine spread was served.

RACINE COUNTY

Racine County Medical Society held a meeting at Brown's Lake at the Lakeside Hotel, June 26th. Dr. William Schroeder, professor of surgery at the Northwestern University Medical School, delivered an address. A chicken dinner was served at the hotel.

ST. CROIX COUNTY

At the meeting of the St. Croix County Medical Society held on June 27, at Hudson, the following officers were elected: Drs. Philip McKeon, president; C. F. King, vice-president; W. H. Banks, secretary-treasurer. A banquet at Col. John Hanley's Commercial Hotel followed the session.

BOOK REVIEWS

THE JUNIOR NURSE. By Charlotte A. Brown, R. N., Instructor in the Boston City Hospital; Graduate of the Boston City Hospital and Boston Lying-in Hospital Training Schools for Nurses; late Superintendent of the Hartford Hospital Training School, Hartford, Conn. 12mo, 208 pages, illustrated. Cloth, $1.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

As the title indicates, this book is especially adapted to the needs of the beginner and has to do with the technic of primary nursing.

It is arranged in twenty-three chapters including a glossary, comprising in all 208 pages and containing a number of very practical illustrations.

The text begins with a chapter on the Qualifications desirable in a nurse, the succeeding chapters dealing with the following range of subjects: Personal Hygiene; Bed-making; Admission of Patients; Temperature, Pulse and Respiration; Ventilation; Bacteria; Medicines, Enemata. Symptoms; Bed-sores; Urine; Food and Food Values; Wounds; Bandaging; Anesthesia; Applications of Heat and Cold; Counter-Irritants; Emergencies; Care of Eyes and Ears; Modes of Transmission and Immunity in Contagious Diseases.

The method of presentation is lucid, condensed, and has well accomplished its aim which is to make clear in as few words as possible the practical and necessary points for a nurse to know early in her training.

It is interesting to note the increasing number of books on nursing that are being written by nurses and this one can well be classed among the best. It seems to be well arranged and adapted to class work and can be recommended as a reference book as well.

C. V. N.

THE PRINCIPLES OF PATHOLOGIC HISTOLOGY. By Frank B. Mallory, M. D., Associate Professor of Pathology, Harvard Medical School and Pathologist to the Boston City Hospital. Octavo of 677 pages, with 497 figures containing 683 illustrations, 124 in colors. W. B. Saunders Company, Philadelphia and London, 1914. Cloth, $5.50, net.

In the preface to this admirable work the author states that this book treats of pathology from the morphologic point of view. The aim constantly in mind has been to present the subject biologically, first by ascertaining so far as possible the cellular elements out of which the various lesions are built up, and then by tracing the development of the lesions from the simplest to the most complex."

Part I, General Pathologic Histology, takes up in turn Inflammation, Retrograde Processes and the Substances Associated with Them, Special Injurious Agents and the Lesions They Produce, Tumors, Simple and Mixed.

Under Part II, Special Pathologic Histology, are considered the Organs of Circulation, Organs of Respiration, Organs of Digestion, Urinary Organs, Male Genital Organs, Female Genital Organs, Blood-Making Organs, Organs of the Central Nervous System, Organs of Locomotion, Other Organs.

The book is systematically planned, clearly written, and abundantly illustrated with plates and figures of great excellence.

It is a book to which we can conscientiously give the highest commendation.

THE MIDWIFE IN ENGLAND. Being a study in England of the working of the English Midwives Act of 1902, by Carolyne Conant Van Blarcom, R. N., Secretary of the Committee for Prevention of Blindness, State of New York; Chairman of Committee on Midwives of National

Organization for Public Health Nursing; formerly Assistant Superintendent and Instructor in Obstetrical Nursing at the Johns Hopkins Hospital Training School for Nurses; with an introduction by J. Clifton Edgar, M. D., Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College; visiting Obstetrician to Bellevue Hospital, New York City; Surgeon to the Manhattan Maternity and Dispensary; Consulting Obstetrician to the New York Maternity and Jewish Hospitals. December, 1913. Published by the Committee for the Prevention of Blindness, 130 East 22nd Street, New York City.

In the introduction to this little volume Dr. Edgar writes:

"With the uplifting and education of the midwife in view, Miss Van Blarcom, as Executive Secretary of the Committee for the Prevention of Blindness, was commissioned by the Committee to visit England during the autumn of 1911 to study the working of the English Midwives Act of 1902.

"The results of her labors are herein set forth in a concise and comprehensive manner; they hold up before us a concrete example of how the Midwife Problem has been successfully solved by another English-speaking country than our own; how the problem is not so difficult of solution as at first sight it would appear, and how this country, with all its aggressiveness and vaunted progress, is at least a decade behind England in this matter.

"To quote the author of this pamphlet:

" 'So far as we are now able to learn, the United States of America is the only civilized country in the world in which the life and health and future well-being of mothers and infants are not safeguarded so far as possible by statutory requirement for at least the training and licensing of midwives. In most of the European countries the training, licensure and control of midwives are regulated by national law, while in some others—in Germany, for example—there are independent state laws regulating the work of these women. Some countries have gone so far as to provide the poor in isolated communities with the services of midwives at public expense. But apparently in no other land has the whole matter been given so little attention as in America.' "

"I commend this little book to those who are earnestly striving to solve the problem of the midwife in America as the most valuable contribution to the subject thus far published."

In her concluding chapter Miss Van Blarcom sums up the results of her observations as follows:

"I felt that the practical value of the Act was convincingly demonstrated by the three following results of its administration: 1, the substitution of clean, intelligent women for the old, unfit midwives—which is gradually being accomplished; 2, the encouragement of a superior class of women to train as midwives, and 3, the ability of the authorities to control practicing midwives and limit their work to attendance on normal cases—all of these factors in turn making for the ultimate object of the Act, that is, the welfare of the patients themselves."

THE PRACTICE OF PEDIATRICS. By Charles Gilmore Kerley, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Octavo of 878 pages, 139 illustrations. W. B. Saunders Company, Philadelphia and London, 1914. Cloth, $6.00, net; Half Morocco, $7.50, net.

Dr. Kerley has now produced a work more comprehensive in scope than his earlier one on "The Treatment of Diseases of Children." The new volume bears strongly marked upon it the stamp of the author's personality. Dr. Kerley has become one of the most successful practitioners of his specialty in New York City, and after looking over one of his chapters the reader feels very much as though he had been having a personal chat with the energetic and resourceful author about the management of this particular group of cases; and he usually tells not only what he does, but also how he does it.

In reading Dr. Kerley's chapters on Infant Feeding one feels the conflict between the newer ideas which have been spreading over the pediatric world from Germany and the older ones which had their origin chiefly in this country. Dr. Kerley is inclined to be conservative in these matters, and his preferences for top-milk mixtures and shorter feeding intervals are easy to understand, for these have served him well. In all probability the world will never know one only and infallible method of feeding babies; it will always be a matter of the tools and the workman. Different methods may be used to produce the same results.

For the general practitioner the book will be of great value and its chapters may be looked upon as a series of excellent, practical monographs. For the medical student this character would be less advantageous, but what is lost here is more than made up by the readability of the text. There is no dryness or dullness anywhere in the volume.

CLINICAL HEMATOLOGY: AN INTRODUCTION TO THE CLINICAL STUDY OF THE SO-CALLED BLOOD DISEASES AND OF ALLIED DISORDERS.. By Gordon R. Ward, M. D., Fellow of the Royal Society of Medicine, Medical Society of London, etc. Octavo of 394 pages, illustrated. W. B. Saunders Company, Philadelphia and London, 1914. Cloth, $3.50, net.

This volume approaches the subject of the blood and its diseases from a different point of view from that usually taken in treatises on this department of medicine. As the author says in the preface: "This volume is primarily concerned with that clinical study of the so-called blood diseases which has been so much overshadowed by exclusively pathological investigation."

The result is that instead of a minute description of the blood condition alone which is encountered in these various pathological states, there is presented a well drawn clinical picture of the disease as a whole, with the blood findings given their proper relative value.

The classification of blood diseases adopted by the author is novel and interesting and it tends to give the reader of this interesting volume a better idea of the subject as a whole than is common.

Many treatises on the diseases of the blood suggest the idea of consecutiveness and relationship about as much

as does a dictionary, but from these misfortunes Dr. Ward has happily escaped.

Practical Medicine Series. Vol. I, series 1914, General Medicine, edited by Frank Billings, M. S., M. D., and J. H. Salisbury, A. M. M. D., Chicago, pp. 375. Price, $1.50.

Vol II, General Surgery, edited by John B. Murphy, A. M., M. D., L. L. D., Chicago, pp. 578. Price, $2.00.

Vol. III, Eye, Ear, Nose and Throat, edited by Casey A. Wood, C. M., M. D., D. C. L., Albert H. Andrews, M. D., and William L. Ballenger, M. D., pp. 354. Price, $1.50.

These volumes of a handy size and attractively arranged for the student and busy practitioner, are replete with suggestions of the best practice of the day. The material of the volumes consists almost entirely of abstracts of important recent articles, in each case giving the reference to the original article. The ground is covered with great thoroughness, so that these books present in condensed form what has been done during the year that is really good.

By means of this excellent series of books it is possible for the general practitioner to keep in touch with medical progress in all its directions, an undertaking which the growth of medical literature has rendered an impossibility without such an aid. The judicious editorship of the entire series and of the individual volumes eliminates most of the superficial and unsound in current medical literature and presents the articles of real value in a form full enough for satisfactory use.

For the busy general practitioner, who desires to keep moving with the current of progress this series will prove most helpful.

Diseases of the Retina. Leber, Th., Professor, Heidelberg. Graefe-Saemisch-Hess, Handbuch der Gesamten Augenheilkunde. 2nd, entirely new, edition. Nos. 231 and 232. 160 pages, with 67 illustrations in the text. Leipzig und Berlin, Wilhelm Engelmann, 1914. Subscription 4M. $1.00. The first part of these Nos. deals on 142 pages with the diseases and anomalies of the vascular system of the retina, considering in detail the different forms of hyperemia, cyanosis, polycythemia, aneurysms, their origin and occurrence, varicosities of the retinal veins, anemia, collateral cirrosities and tortuousities, physiological varieties and pathological arterial and venous anastomoses, congenital vascular loops projecting into the vitreous. Under alterations of the vascular walls the pathological anatomy, ophthalmoscopic appearance, functional disturbances, etiology are set forth. L. points out that they may be partly of microbic origin, e. g., in syphilis, tuberculosis, partly in connection with atheroma of the larger vessels. The endarteritic and endophlebitic processes of the retina are not a necessary consequence but a frequent complication of atheroma of the larger vessels, which very likely may be caused by a disturbance of nutrition due to spasm of the vasa vasorum. On account of the focal occurrences of the alterations L. considers this much more probable than a direct toxic effect on the tissue. The changes in arteriosclerosis, nephritis, diabetes, and especially syphilis, juvenile and senile alterations are discussed exhaustively, then the atrophy and new formation of retinal vessels, anomalies of the vascular contents.

In the 2nd part the disturbances of circulation of the retina and their consequences are presented, first general remarks on ischemia of the retina through obstruction of the central retinal artery, with an historical introduction. From all incident points Leber has become convinced that at least the far preponderating majority of acute amauroses with the aspect of ischemia of the retina is to be attributed to embolism. As this opinion contrasts with the now largely prevailing views of recent investigators who on the strength of careful researches limit as much as possible the occurrence of embolism in favor of primary endarteritis, the proof for which L however does not consider established, Leber intends to discuss in the future the symptoms and course of embolism more exhaustively, for enabling the reader to form his own judgment.

The thoroughness of the discourses by an author of such large experience displays on every page the great value of the work, which is enhanced by the abundance of carefully and artistically executed illustrations of original specimens.

C. Zimmermann.

Defective Ocular Movements and Their Diagnosis. By E. and M. Landolt, Paris. Translated by Alfred Roemmele and Elmore W. Brewerton. 99 pages, with 27 figures in the text. London Henry Frowde, Oxford University Press, Hodder and Stoughton, Warwick Square, E. C. 1913.

This is the translation of the German edition by E. Landolt which appeared in 1907 and was reviewed in October, 1908. It has been revised, and 4 illustrations have been added. As pointed out in the preface, the authors, in order to determine exactly and properly utilize the clinical symptoms, presented those facts which are absolutely necessary for the recognition of the oculomotor affections, especially those with which the practitioner is less familiar.

In the first part the anatomy and physiology of the ocular muscles, especially the symmetrical movements and the practical application of prisms, are set forth.

The second part, on the disturbances of motility, discusses paralytic and concomitant strabismus, the differential diagnosis between both, and particularly the diagnosis of ocular palsies. A well arranged table shows for each muscle, if paralyzed, the deviation of the eye, position of false image, limitation of motility and faulty projection, increase of diplopia, position of head (direction of face), secondary deviation of the healthy eye, and the mutual relations of the double images illustrated by red and black lines. Then follow the chapters on strabismus in consequence of disturbances of the centers of the symmetrical and associated movements of the eyes, from lesions of the organs of equilibrium (paradoxical motor anomalies) and nystagmus.

In the last part, on the seat and etiology of the oculomotor affections, Landolt teaches how to diagnose the seat of the lesion from the symptoms—contrary to the usual fashion of the textbooks to enumerate the various diseases with the concomitant symptoms—first

of the isolated palsies of each ocular muscle, then of the different forms of ophthalmoplegia. Finally the causes of palsies and spasms of the ocular muscles are summed up.

In the explanation of figure 21, page 68, "oculomotor" under c, and "trigeminal" under d, must be interchanged.

The author, who by his original investigations and devices has largely contributed to enlightening this difficult field of ophthalmology, has admirably succeeded in giving here a concise and very clear exposition of all that is necessary to know. The well gotten up work is highly recommended as a most useful and reliable guide.

C. ZIMMERMANN.

ON HEMORRHAGES IN THE RETINA IN MILIARY TUBERCULOSIS. Stock, W., (From the eye clinic in the University of Jena. Klinische Monatsblätter für Augenheilkunde 52, Januar 1914, p. 75), found in a man, aged 37, affected with miliary tuberculosis, hemorrhages in both retinae, but no changes of the blood vessels. On the day of his death, the ophthalmoscope revealed 3 miliary tubercles of the chorioid of the left eye. Histologically the hemorrhages were mostly found in the layers of the nerve fibers and the ganglion cells. There were no signs of inflammation of the retina. One place of the wall of a blood vessel was loosened and the endothelium lacking. This was undoubtedly the point where the extravasation of blood occurred. At the posterior pole of the left eye 3 typical circumscribed tubercles of the chorioid with tubercle bacilli in the cheesy contents were observed. No tubercle bacilli could be found in the retina. The hemorrhages were in no connection with the tubercles, and were due to changes caused by a general intoxication from the miliary dissemination of tuberculosis, not to local actions of tubercle bacilli. The observation was especially interesting as it showed that a general infection with tuberculosis may give rise to hemorrhages in the retina, while so far hemorrhages in the retina in general grave infections were always attributed to pus germs.

C. ZIMMERMANN.

ANATOMO-PATHOLOGICAL CHANGES OF THE EYES IN A CASE OF CHRONIC INTOXICATION FROM ETHYL ALCOHOL WITH SECONDARY UREMIA. Scherwinsky, Bonaventura, (From the microscopical laboratory of Prof. G. Fritsch in the University of Berlin. von Graefe's Archiv für Ophthalmologie, 87, p. 135). A heavy drinker complained of severe headache. His left arm was slightly paretic, pupils unequal, reacted promptly to light. He then had vomiting, visual hallucinations and became so excited, irresponsible and violent that he was brought to the insane asylum. Here he made the impression as if he were blind. The urine contained albumin. The next day he had convulsions; the pupils were extremely narrow and did not react to light. He became drowsy, the convulsive attacks came more frequent and terminated fatally.

The ophthalmoscopic examination immediately after death revealed partial atrophy of the optic nerves and edema of the retinae. The autopsy and histological changes of the eyes are reported in detail. The anatomical changes are characteristic of chronic alcoholism: hypertrophy and degeneration of the muscles of the heart, cirrhosis of the liver, nephritis, chronic hyperplastic leptomeningitis and typical circumscribed neuritis of the papillo-mascular bundles of the optic nerves. The process was most intense in the proximal section of the optic nerves, at the apex of the orbit and at the optical canal. The posterior central veins did not show alterations to which Sachs called attention, but at the apex of the orbit and the optical canal leptomeningitis and vascularisation of papillo-macular bundle were found, corresponding to the description by Schieck. The edema of the retina, arteriosclerosis and phlebosclerosis of the retinal vessels, and changes of the different layers spoke for albuminuric retinitis, which was complicated by uremia. The histological conditions of the optic nerves are illustrated on plates.

C. ZIMMERMANN.

ON THE POSTOPERATIVE VISUAL DISTURBANCES AND AMAUROSIS OF NASAL ORIGIN. Onodi, A., Budapest. (Zeitschrift für Augenheilkunde 31, March 1914, p. 201), gives statistics on 13 cases of visual disturbances and amaurosis after radical operations and intranasal opening of the frontal sinus, evacuation of the ethmoidal cells and sphenoidal sinus, operations on the septum, extirpations of polyps and conchotomy of the middle turbinated bodies. Onodi explains them by indirect fractures of the optic canal, which as his anatomical investigations showed, may be situated in the sphenoidal sinus and posterior ethmoidal cells in a length of from 10 to 12 mm. and may have extremely thin walls or present dehiscences. Therefore the greatest precaution must be observed in these operations for avoiding postoperative lesions of the optic nerve. The anatomical conditions are illustrated.

C. ZIMMERMANN.

THE FUNCTIONAL PREDOMINANCE OF THE NASAL HALVES OF THE RETINAE IN THE COMMON VISUAL FIELD. Koellner, D., (From the eye clinic of Prof. K. Wessely in the University of Würzburg. Archiv für Augenheilkunde, 76, p. 153), describes experiments by which he proved, that in the binocular visual field the impressions of the temporal halves of the visual field predominate over those of the nasal halves, not only by their larger extent, i. e., both monocular semilunar parts, but also in the common part, almost equally in their whole area as far as the vertical line of separation. In other words the functions of the visual substance corresponding to the nasal halves of the retinae, respectively the crossed optical fibers, predominate. K. shows how the following important facts can be explained by the functional predominance of the total temporal halves of the visual field: 1. The simultaneous visibility of both blind spots with both eyes open. 2. Certain phenomena with regard to the distinction of impressions of the right and left eye.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

POINTS OF CONTACT IN GENERAL AND ORTHOPEDIC PRACTICE.*

BY F. J. GAENSLEN, M. D.,
MILWAUKEE.

Of the cases coming to the orthopedic surgeon for diagnosis or treatment not a small contingent is formed by patients complaining of weak and painful back, often with pain radiating down one or both legs. They frequently volunteer a diagnosis of sciatica and in a good many instances have tried in vain various forms of treatment.

I should like, therefore, to recall briefly the essentials in the diagnosis of sacro-iliac relaxation and of conditions which are likely to be confounded with it. So much has been said concerning sacro-iliac relaxation or strain, lesions now well established anatomically and pathologically, largely by the pioneer work of Goldthwait, that one would feel some reluctance in bringing them up for discussion were it not for the fact that frequently these cases are not recognized and again the diagnosis is made erroneously.

First As to Sciatica: This diagnosis should be made with the greatest caution and only after most careful examination eliminating the various conditions to be enumerated. At the outset it might be stated that sufficient exposure of the back is the first essential without which one is not justified in putting down his findings as negative and therefore arriving by exclusion at a diagnosis of sciatic neuritis. Cases of true sciatica are becoming exceedingly rare, even denied by some. As cardinal symptoms of true sciatica are extreme tenderness and pain along the distribution of the sciatic nerve, sometimes with atrophy and pronounced disturbances of sensation and reflexes. It seems reasonable to suppose that all cases of sciatica have some pathological basis which we should make every effort to determine. A good many types formerly obscure have been cleared up. Among these may be mentioned the cases resulting from nerve irritation by pressure of intrapelvic growths and inflammatory processes. Kleene, a German writer, states that sciatica is frequently associated with infiltrations in the gluteus maximus and medius and claims good results from vigorous massage aiming at resolution of these infiltrations. Perhaps some of the cases coming on after exposure to cold and wet may be explained in this manner.

Sacro-Iliac Strain: Though there are still some doubters, strain and displacement of the sacro-iliac joint do exist and are perhaps responsible for the great majority of the so-called sciaticas. Goldthwait has pointed out that there is in the normal joint an appreciable amount of movement. Clinically this mobility has been utilized in obstetric practice in cases of contracted pelvis, by having the patient assume the so-called Walcher position. Küttner has determined that this procedure increases the conjugata vera up to 1.4 cm. Motion takes place on a transverse axis through the middle of the second sacral vertebra. It has also been emphasized that mechanically the sacro-iliac joint is a weak joint depending for its integrity largely upon the muscular and ligamentous support. The surfaces are irregular and flat and placed obliquely so that the weight is not transmitted perpendicularly as in practically all the large weight bearing joints. Therefore the importance of good tone of muscles and ligaments becomes evident.

Etiologically trauma is by far the most important factor in the production of sacro-iliac strain. Many cases give a history of the pain coming on during lifting or even in turning in bed, etc. The strain on the joints incidental to pregnancy and child-birth or that associated with the extreme relaxation on the operating table in anesthesia are also fruitful sources of trouble. In not a few instances there is an underlying factor without which these incidents, some of them trivial, would not be followed by disability and among these may be mentioned faulty attitude, pelvic disorder, or

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 3, 1913.

general debility. In a certain definite group on the other hand these latter conditions in themselves are the principal factors in etiology, the strain of the ordinary daily routine being sufficient to develop the train of symptoms attributed to relaxation of this joint.

The onset of the traumatic cases is sudden, in cases of general debility more gradual, just as a condition of weak foot may come on after a debilitating illness. This means merely that the muscular system is not doing its share in the support of the structures. The chief complaint as a rule is of pain either directly over the sacro-iliac joint or over the sacrum slightly to one side of the middle line and not infrequently radiating down the back of the thigh and leg to the ankle or to the lower abdomen and groin. These referred pains are readily understood when it is remembered that the sacro-iliac synchondrosis lies directly behind a large plexus of nerves and that any abnormal mobility or congestion about the joint may result in irritation of the nerves of this plexus. These pains are generally worse at night when the muscles are relaxed. In women sufferers a well fitting corset is usually a comfort and removal of it is attended with aggravation of symptoms. This is also to be expected by the unloading of the weight on the ligaments.

Spasm of the gluteal and thigh muscles in the erect position is frequent and is often perfectly evident on inspection, sometimes more easily appreciable by palpation. In long standing cases atrophy may be present. This may be detected as easily by the flabbiness to the touch as by careful measurement. Very frequently there is a deviation of the body to one side or the other, generally away from the affected joint, perhaps in the attempt to relieve the strained joint as much as possible from weight bearing. In severe cases the thigh and knee may be slightly flexed. The lumbar curve is frequently flattened indicating a backward displacement of the sacrum on the ilium. Forward bending from the erect position with the knees straight is usually limited and the limitation is confined to the lumbar region. Lateral bending is also restricted, generally more so to the side away from the lesion, and motion usually begins at a higher level on this side.

Raising the legs with the knees straight as in testing for Kernig's sign, is also limited, frequently on both sides though more so on the side of the lesion. Sometimes lateral compression of the iliac crests will elicit tenderness over the sacro-iliac joint. In the great majority of cases no doubt the trouble is due merely to a relaxation of the joint and here one would scarcely expect a radiogram to show a definite lesion, just as one would not expect to find a demonstrable lesion in a strained ankle. Actual displacement, however, can sometimes be recognized in the radiogram.

The marked relief obtained in the majority of mild cases by firm strapping of the back with adhesive plaster is in perfect harmony with the above statements and good results must be interpreted as a relief of the ligaments from strain until the muscular tone has been restored. In a number of instances such adhesive strapping has been followed by immediate and definite aggravation of symptoms. These instances represent I believe cases where there has been a slight displacement and in which, therefore, the pressure of the strapping is misdirected. In the severer cases manipulation under ether aiming at reposition of the joint surfaces and fixation has often given very satisfactory results.

Faulty Attitude: Among conditions which may be confounded with sacro-iliac relaxation those due to faulty attitude are not infrequent. This faulty attitude is characterized by forward and stooping shoulders, diminution of the lumbar lordosis, and consequent shifting forward of the center of gravity. To maintain equilibrium there must be maintained a more or less constant pull of the lumbar muscles.

The attitude as just described is the most striking feature of these cases. There is no lateral spinal deviation, no limitation of the spinal or hip movements and pain is in the lumbar region rather than over the sacro-iliac joints or sacrum. Moreover appliances designed merely to support the sacro-iliac joint will be of little avail unless combined with measures correcting the faulty attitude. In long standing cases secondary sacro-iliac strain develops as a result of abnormal poise and will be recognized by the symptoms enumerated.

Lumbo-Sacral Strain: This condition which is very frequently mistaken for sacro-iliac relaxation is dependent usually upon variation from the normal of the transverse processes of the last lumbar, of the articular facets or of the sacrum or iliac crests. Some of these points are illustrated in the specimens shown.

In a study endeavoring to clear up some of the cases of back pain of obscure origin Goldthwait has called attention to the very frequent occurrence of these abnormalities and we are indebted to him for our present understanding of this group.

Motion at the junction of the fifth lumbar and the sacrum is comparatively free and when the transverse processes of the fifth lumbar are unusually long they may in side bending impinge upon the iliac crests, especially when these are closely set. Again, an abnormally broad transverse process may in the same motion press upon the lateral mass of the sacrum, the more likely, if this occupies a higher position than normal.

In extreme side bending there may therefore be a leverage action with the contact points just mentioned as the fulcra. In this way strain at the lumbo-sacral articulation results. This occurs more easily where an abnormality of the articular process impairs the stability of the joint.

Among distinguishing features are pain and tenderness referred to the lumbo-sacral joint and limitation of motion especially lateral and backward, varying in direction and extent with the bony pecularities present. The hip motions may not be interfered with.

Referred pains down the legs and disturbances of sensation are frequent, due to irritation of the nerves in proximity to this joint. These referred pains may be aggravated when there is in addition an increased lordosis which has the effect of crowding the articular facets and the transverse processes. In this way may be explained some of the cases of backache and pains radiating down the extremities in the later months of pregnancy in which relief is obtained in the supine position due to the straightening out of the spine. This relief could not be expected in case the irritation were due merely to the size and pressure of the uterus. Both lumbo-sacral and sacro-iliac strain predispose the one to the other and combined forms are common, a fact which it is important to recognize in the treatment.

Spondylolisthesis: As a result of excessive lumbo-sacral strain actual displacement of the fifth lumbar upon the sacrum may also occur. In the treatment of such a patient seen last April the study of Goldthwait's illuminating and classical description published in the Boston Medical and Surgical Journal, March, 1911, was a great comfort and help. In my own case there was no bony peculiarity, the condition resulting from a pre-existing sacro-iliac relaxation of some two years standing. This case which was referred to me by Dr. W. T. Nichols, will be more fully reported later. The principal points on which the diagnosis was made were marked forward and lateral deviation of the spine to the left, rotation of the lumbar vertebrae to the right, right lumbar, left dorsal scoliosis, definite prominence of the easily palpable lumbar transverse processes on the right, marked prominence and spasm of the lumbar muscles on the right with corresponding depression on the left, right psoas contraction and radiographic findings.

Stereoscopic radiograms to confirm the anterior position of the left fifth lumbar articular facet were of no help except to show that there was a difference between the two sides. Reduction under anesthesia was successful and a comparison of radiograms taken before and after forcible manipulation shows the restoration of normal relations.

Tuberculosis of the Sacro-Iliac Joint: While rare this condition must be kept in mind as a possibility in the differentiation from sacro-iliac strain. In the early stages the diagnosis may be almost impossible. Pain on compression of the iliac crests is a constant symptom, also local tenderness, while in the late stages local swelling is suggestive. Rectal examination may reveal intrapelvic abscess.

Tuberculosis of the Lower Lumbar Vertebrae: This may give rise to considerable difficulty. Here the restriction of motion in all directions, absence both of pain and local tenderness over the sacro-iliac joint together with the history and general symptoms will be of help.

Appendicitis and So-called Ovarian Neuralgia: These conditions are said occasionally to simulate the referred pains to the lower abdomen and groin attributed to sacro-iliac lesion. It is difficult to explain the relief obtained by strapping the sacro-iliac joints in these cases as the nerves which may be irritated in these sacro-iliac lesions are distributed to the lower levels. Possibly these cases represent the type of combined sacro-iliac and lumbo-sacral strain in which the correction of the lumbo-sacral lesion is dependent upon the elimination of the sacro-iliac factor. I know of two instances of such referred pains in which a diag-

nosis of appendicitis had been made. In one appendectomy had been done without relief and in the other the entire absence of muscular spasm in spite of very acute pain at McBurney's point finally led to the suspicion of a sacro-iliac strain and the application of adhesive strapping with immediate and complete relief. In suspected adnexa disease the fact that the menstrual period aggravates the symptoms is misleading. But so also are symptoms aggravated in sacro-iliac conditions. Absence of gross pelvic lesions should lead to careful examination for sacro-iliac disturbances and to fixation as a therapeutic test.

Malignant disease involving the sacro-iliac joint is extremely rare though in the past year two instances have come to my notice, one of sarcoma which I had mistaken for tuberculous disease in which, besides other suggestive symptoms, the tuberculin test was positive, and another of carcinoma, secondary to prostatic involvment. This man had had electrical treatment for sciatica for six months.

Foot strain must also be recognized as a cause of weak and painful backs and in all cases where the diagnosis is in doubt this factor should be looked for and eliminated.

Finally *osteoarthritis,* for the diagnosis of which we are dependent largely on the X-ray, must be kept in mind as well as actual disease of the joint due to specific organisms other than tuberculosis.

Chronic vesiculitis and prostatitis as stated by Young are sometimes responsible for lumbago and sciatica and should be kept in mind in diagnosis.

Infantile Paralysis: This disease during recent years has claimed many victims in this State. The management of the acute stage will not be discussed here as the internist has the best opportunity of judging of the value of the general constitutional measures employed. There is one point however which Lange of Munich, has emphasized as of particular advantage and this is spinal fixation. He says "we have found children ill with poliomyelitis suffering severe pain become free from pain on the application of a plaster of Paris jacket which held the spinal column still and at rest. At present we can rely less on internal remedies in the acute stages than on orthopedic fixation of the spinal column." A plaster bed which may be described as the posterior half of a plaster jacket is more easily applied and with less disturbance to the patient than an ordinary jacket. The patient may also be placed on a Bradford frame such as is used in the treatment of Pott's Disease.

In consideration of the fact that internal treatment is still woefully deficient one of our most important duties is prevention of deformity. Tubby of London, says it is a reproach to the medical attendant if he permit deformity to occur during the second and third stages. This reproach is perhaps more justly laid at the door of the parents who fail to carry out directions faithfully. And yet it would appear that not enough stress is laid on this feature in our text books on general medicine. Few indeed give any definite directions as to just how this duty to prevent deformity is to be fulfilled. Each case must be studied individually and faulty position, whether due to disturbed muscle balance, gravitation, or otherwise, combatted by corrective splints, etc. The operative treatment of deformities following poliomyelitis has progressed rapidly during recent years. The measures at our disposal, mechanical treatment, tenotomy, tendon transference, etc., were discussed by me at length in a recent paper in the Wisconsin Medical Journal so that no further remarks will here be made; suffice it to say that the problem confronting the surgeon has lost much of its hopelessness.

Pott's Disease: There is nothing particularly new in the diagnosis of Pott's Disease and attention is directed to this subject only because of the possibility of this lesion in cases with obscure pains in the chest or abdomen. While the diagnosis presents no difficulty in cases showing a knuckle in the back together with the other classical signs, spinal caries in the early stages, and I refer more particularly to the condition in the adult, is most difficult and often impossible to recognize.

Whitman states that not infrequently one must await results of fixation in plaster or brace to clear away suspicion. There may be no evening rise in temperature even when an abscess is present, especially when patients are kept in bed. We are indebted to Brackett of Boston for a rather useful classification of Pott's Disease into two principal types, distinguishable clinically. In the first, the weight bearing function of the spine is the one principally interfered with. In this type the lesion occupies the anterior portion of the

bodies of the vertebrae. As these portions crumble there is early appearance of a knuckle but referred pains are uncommon. In the second the lesion is located more posteriorly in the bodies of the vertebrae while the anterior portions remain intact. There is little interference with weight bearing. There is no kyphosis until late. But the neural canal is encroached upon by the granulation tissue or exudate resulting in referred pains as a prominent symptom.

This second type, therefore, is characterized essentially by the interference with the protective function of the spine. It is in this form particularly that the X-ray is of not much value and we are dependent largely upon physical signs. Interference with weight bearing as shown by mobility and attitude of spine are present in a much less degree while reflexes are increased.

The simulation of kidney disease is well known. In some instances this may be explained by the presence of a psoas abscess, and Tubby cites a case, afterward proven spinal caries, in which suspicion of kidney stone was apparently confirmed by the shadow in the X-ray of a calcareous gland.

One patient, a woman of forty-five, seen by me had been previously operated upon for supposed gall bladder trouble. No stones were found and her condition continued as before until fixation of the spine was secured. In another floating kidney was diagnosed by two physicians independently and kidney fixation advised. Her symptoms disappeared entirely upon application of a leather jacket in a hyper-extended position. These cases are cited merely to call to mind the fact that Pott's Disease may exist without the formation of kyphosis and without local tenderness so that the condition must be looked for in obscure cases in which pains complained of may be referred pains.

DISCUSSION.

Dr. H. E. Dearholt, Milwaukee: Mr. President, and Gentlemen of the Society, when I was asked to discuss this paper I had misgivings about my right to do so, inasmuch as I am no longer seeing patients. However, it occurred to me that there was something to be said that I could not say were it not that I am in the position that I am to-day; no longer practising orthopedics, no longer in a position where I might be suspected in what I want to say, of bidding for consultations or referred cases. My work, as some of you know, is in medical sociology. That gives me some right to plead for the better care and treatment of the at present untreated cases. I am no longer concerned with the more or less refined points in the diagnosis of one surgical or orthopedic case from another, but I am most concerned, as everyone who is interested in this subject, must be, with the tremendous number of patients who are going about untreated. I am concerned about these cases, which, probably more than any other class of cases that come in the field of medicine and surgery, are responsible for the existence of independent cults in medicine and surgery. I refer of course at this time, to osteopathy and chiropractic, etc. It is a fact that medical men have been neglecting so many of these simple little malformations, or malpositions, that they have left a big, broad field, in which osteopaths and chiropractors in some instances, are actually doing much better work than has been done in the past by the medical profession. I am not holding any brief for the practitioners of these cults at that. Dr. Gaenslen laid stress on the care of anterior poliomyelitis. I think that when I was in practice, the best handled case that ever came to me, was a case that had been handled by an osteopath. The osteopath by his manipulations had done everything that was necessary to avoid unnecessary deformity. I will admit that in the minds of most practitioners of medicine and of surgery the very word orthopedics creates a false understanding. Indeed, when I first came to Milwaukee to do work in orthopedics I found when I had been here for some time that very cultured physicians, physicians who had classical educations, thought that the specialty represented nothing but a variety of chiropedy. When this view was taken by physicians, it is not strange that it was shared by the general public. Again, we have all some inborn primitive abhorrence of deformity to overcome. In the instance of Dr. Gaenslen himself I think I may tell you, that when I first worked with him in orthopedic surgery, he thought of it as a brace maker's art. This notion has been held by general practitioners of medicine and surgery, to a greater or less degree in the past, but if we think of the real meaning of the work orthopedics, as a specialty, which is concerned with the straight body, you can see how comprehensive it is. This title of this paper and the subject as presented by Dr. Gaenslen seems to me most important—the border lines. Any deviation from normal strength, from a sound body, can be interpreted, according to the strict etymology of the term, to be orthopedic surgery. I do not think there need to be very many deformed individuals, cripples, going around in public, if the profession to which the people look for their care, will watch their cases, do for them what they need to do, and not let them go on to deformity through sheer neglect. As I say, the point that I want to make above all things else, is that I do not care about these border line diagnoses any longer, although I have seen startling instances of sciaticas of years and years standing benefited by a belt, etc. I called attention here two or three years ago to foot disorders that had caused operations for appendicitis and treatment for Pott's disease. I do want to make the strongest possible plea for the untreated case, and to make a plea to the medical profession to meet the public demand, and the right that the public has to get the sort of treatment that they are entitled to when they put the care of themselves and their families in the hands of the medical profession.

VOLCKMANN'S ISCHAEMIC PARALYSIS WITH SPECIAL REFERENCE TO NERVE INVOLVEMENT.*

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The condition known as Volckmann's ischaemic paralysis or contracture first described by Volckmann in 1869 and later by Leser, who made the first animal research, is now generally conceded to be caused by two factors; first, an ischaemic paralysis of the muscles of the extremity followed immediately by contractures and, second, nerve compression or interference with nerve function. The degree to which the muscles and the nerves are involved varies in the cases reported and determines to a great extent the character of the deformity, the kind of treatment indicated, and the gravity of the prognosis. Most of the cases reported have followed over-tight bandages, applied usually for fracture of the upper extremities near the elbow joint and very rarely for similar conditions of the leg.

Volckmann, who gave an excellent clinical description of the trouble, believed the condition to be entirely due to an ischaemia of the muscles which when deprived too long of oxygen, die, their contractile substance breaking down and being absorbed, and that while this ischaemia is not complete as evinced by the absence of gangrene, still the severity of the lesion is directly proportional to its grade. He also stated that the condition can follow ligation, rupture or injury to blood vessels, and probably exposure to severe cold. He considers characteristic of this condition, the fact that the paralysis and the contractures make their appearance at the same time or nearly so, that there is great rigidity from the start, and that this rigidity increases from the formation of scar tissue. The prognosis, he believes, depends wholly upon the amount of muscle destroyed; in the very severe cases it is hopeless while in others orthopedic measures such as stretching the contracted parts, combined with massage and electricity might be of some avail.

Later studies, however, have shown that primary and secondary involvement of the nerves frequently occurs. A primary neuritis, transient or permanent, due directly to pressure aided by insufficient blood supply, is not uncommon and a secondary involvement of the nerves due to connective tissue over-growth is found in the majority of the cases reported. Hence the early teachings of Volckmann in the light of our present knowledge cannot be accepted in toto and since our treatment is directed more to the nerve involvement, combined when necessary with tendon lengthening or bone resection, the outlook is more favorable than he believed.

The following report of a typical case of Volckmann ischaemic paralysis or contracture caused by an over-tight bandage showed such unmistakable evidence of involvement of the nerves as to immediately direct attention to them as being the principal factors in the production of the deformity and the chief indication in its treatment.

H. F., aged 9 years, July 16, 1908, while coasting down a small incline, fell on his bent right elbow from a wagon, when it hit an obstruction and tipped over. The immediate history was obtained from the parents. The boy was taken to a physician who dressed the arm in a posterior angular splint extending from near the shoulder to the wrist. The bandage caused excruciating pain, the hand became swollen and bluish and felt cold. After removal of the bandage on the third day because of the pain, it was noted that the whole arm was enormously swollen and discolored and blebs had formed about the elbow and on the back of the hand. At that time also the wrist and hand were stiff and the fingers were held in a bent position. A second bandage loosely applied was left on for about a month and when removed the arm was approximately in the same condition as when I first examined it a year later, except that the stiffness had increased and the muscles had wasted. In the interim of about a year, daily massage and electricity had been used and the bent fingers stretched frequently as much as possible, but the deformity progressively got worse.

Examination Aug. 17, 1909: healthy looking boy about 8 years of age with good muscular development. The right arm measured about one inch less in length than the left. The movements of the shoulder and elbow were full and normal except that extreme extension and flexion at the elbow were not possible; the impairment, however, was quite marked. The musculature of the shoulder and arm was normal and nearly equal in

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volume to the other arm, there being about one-half inch difference over the belly of the biceps. The muscles of the right forearm and hand were markedly atrophic, the muscular belly of the right forearm measuring an inch less than its fellow. The skin showed no scar formation but the hand felt cold and clammy and had a glossy appearance. The radial pulse on both sides was equal. The most striking feature of the case was the claw-like deformity of the hand, brought about by a marked extension of the first phalanx and a contracture of the second and third phalanges, the thumb being forcibly flexed at its distal joint, and a marked atrophy of the small muscles of the hand, the interossei, lumbricales, and the muscles forming the thenar and hypothenar eminences. Extension at the wrist was voluntarily impossible and when forcibly extended greatly increased the flexion of the fingers. Supination and pronation were almost nil, the hand being held in a pronated position. The small muscles of the hand and forearm gave the typical reaction of degeneration to the galvanic current. Sensation was much impaired over the whole hand and part of the forearm and seemed to involve as nearly as could be made out the areas supplied by all three nerves. An X-ray taken at this time showed that the humerus had been fractured just above the condyles, probably an epiphyseal separation, which had healed with the upper fragments over-riding the lower as shown in skiagraph. From the history of the case a diagnosis of Volckmann's ischaemic paralysis (mild grade) was made, combined with a lesion of the nerve trunks as shown by the characteristic deformity, the sensory disturbances, and the reaction of degeneration of the muscles.

Operation Aug. 24, 1909, assisted by Drs. Kings and Nowack. Ether Anesthesia. An incision about five inches in length extending upward from the elbow was made on the front of the arm at the outer side of the biceps tendon and muscle. After dividing the skin and superficial fascia the radial nerve was found, by blunt dissection, in the groove between the brachialis anticus and supinator longus. It was carefully followed upward to where it pierced the insertion of the supinator and the intermuscular septum and downward, after prolonging the incision, to where it divides into the superficial and deep branch which penetrates the supinator brevis. The nerve was found to be intact and not compressed by a callus. It was noted, however, that instead of being white and round it was somewhat flattened and was grayish in appearance. The muscles also seemed to have somewhat of a grayish-red color and in the immediate vicinity of the nerve there was a marked over-growth of connective tissue which could be distinctly made out.

Through the same incision by blunt dissection on the inner side of the biceps the median and ulnar nerves were isolated and followed upward and downward to below the elbow joint. Both these nerves were intact, but were also compressed by connective tissue. After freeing the nerves the wound was closed without drainage, the fascia with catgut and the skin with silk worm gut. Before the patient was out of the anesthetic the flexor tendons were forcibly stretched.

The after-treatment consisted in massage and frequent forcible extension of the wrist and fingers. At the end of the year there was a marked improvement of the contractures and the evidence of nerve involvement had practically disappeared; at the end of two years the contracture had entirely disappeared and only a slight impairment of extension at the elbow due to the bone deformity was left. The boy uses the arm and hand freely, is able to grasp and throw a ball forcibly and has learned to play the piano. As already stated, the diagnosis of an ischaemic paralysis was made from the history of the over-tight bandage and the fact that the paralysis and the contractures appeared early and simultaneously. This history was confirmed by the physician who saw the case early in consultation and who independently made the same diagnosis. That the muscle injury was of a mild character was shown by the absence of brawny induration of the flexor muscles which is present in the severe types. The operation was undertaken primarily because it was believed that the nerves were injured at the time the patient sustained the fracture or subsequently compressed by the callus. The radial was first sought because it is the one that is most frequently injured in fractures of the humerus. The other nerves were also dissected out because of the extensive sensory and trophic disturbances. The nerves were not displaced nor any of the muscles removed as recommended by Freeman, and in the light of the subsequent history this was not necessary. It might be argued that recovery took place because

of the forcible stretching under anesthesia and the massage but this had been done frequently during the earlier course of the treatment, and with as much force as could be used without tearing them.

Since Volckmann's[1] first description of the condition, there has been more or less of a controversy as to the causative factors in its production. The bone of contention has been whether the ischaemia of the muscle alone is responsible for the condition or whether venous stasis, compression or injury to vessels and nerves, or direct injury to muscles play an important role in its production. Volckmann[3] in a short article in 1881, in which he epitomizes his views, emphatically states that these contractures are ischaemic in origin; that a muscle when deprived for a long time of its oxygenated blood dies, the contractile substance undergoes degenerative changes and is absorbed and that the early rigor is akin to the changes of rigor mortis. Numerous observations on the gross and microscopical appearance of excised muscle seem to confirm this view. Leser,[2] in 1884, in a classical monograph in which he reports seven cases and his experiments on animals, and describes minutely the gross and microscopical changes that occur in the muscles, upholds the views of his chief. In his experimental work on animals, however, he fails to reproduce the contractures, except in one rabbit where he obtained a result which was transient in character disappearing in about four weeks and hence not identical with the condition under discussion. He further tried to show that nerve conduction was unimpaired, by dividing the sciatic nerve after the leg had been constricted a number of hours, and then by stimulating the distal end of the nerve succeeded in getting weak contractions of the gastrocnemius muscle, which would seem to speak also for an uninjured condition of the muscle.

Other experimenters, among whom may be mentioned Lapinsky,[4] Lessen,[5] Hildebrandt,[6] and recently Kistler,[7] have also failed to reproduce the condition even though various procedures, such as injury to nerves, ligation of arteries, etc., had been tried. Since animal experimentation has not entirely cleared up the etiology of these contractures if we turn to an analysis of the reported cases we find that they show conclusively that in the majority of the cases, nerve involvement plays an important part in the production of the deformity, and that in other cases various accidents attendant upon the injury may be the cause. After the comprehensive articles published by Leser, Hildebrandt, Powers[8] and Thomas,[9] it is needless to review the literature for a resume of this subject and for this analysis of reported cases I shall quote these authorities.

In regard to nerve involvement, Thomas states that in 61 of the 107 cases that he has collected, conditions were noted as present which could only be produced by injury of the nerves, and this is undoubtedly less than the total number in which the condition was present, as some of the cases are reported without full detail. The symptoms and signs that point to nerve involvement are first, sensory disturbances of the hand (as the condition in the large majority of the cases involves the upper extremity), especially confined to areas supplied by certain nerves, the ulnar, the median, the radial, or all three; second, paralysis and atrophy of the small muscles of the hand, the interossei, lumbricales, and the muscles of the thumb and little finger, forming the thenar and hypothenar eminences and the consequent reaction of degeneration in these muscles shown by a sluggish contraction on stimulation with the galvanic current, the anodal closing contraction being greater than the cathodal closing contraction.

In consequence of the paralysis of the small muscles, the hand assumes a characteristic position which is present in the majority of the cases reported and to which I wish to call your attention. The function of the lumbricales is to flex the first phalanx and extend the two distal ones. These muscles are innervated by the ulnar and median nerves. Where these muscles are paralyzed, because of the contraction of their opponents the hand is held with the first phalanx extended and the two distal flexed. Their insertion being to the flexor tendons, extension of the wrist increases this deformity and flexion diminishes it. It is noteworthy that nearly all of the illustrated cases show this deformity. A simple contracture of the flexor tendons, the flexor sublimis and profundus digitorum could never produce it, and hence we must assume nerve involvement in all these cases. In the cases, too, where operative procedures have been employed we find frequent mention of nerve involvement. Peterson,[10] as early as 1888, reports a case of compression of the median and ulnar nerve with obliteration of the

brachial artery. Other writers among them Powers, Fergusson,[11] Jopson,[12] Drehman,[13] Wallis,[14] Hildebrandt, Freeman,[18] and Davies-Colley,[15] also mention nerve involvement in their operative treatment.

While the ischaemia with subsequent muscle changes and the nerve involvement as before stated are now generally regarded as being the two most potent factors in the mechanism of the production of Volckmann paralysis, we find a number of writers whose views are opposed to this; thus Riedenger[16] believes that direct mechanical pressure on muscle is responsible for the condition and in his cases the area of muscle damage exactly coincided with the pressure area. Littlewood, in a letter to the Lancet (quoted from Fergusson), expresses the opinion that the term ischaemic paralysis is a misnomer, the contracture occurring after elbow injuries in children being really due to the contraction of cicatrical tissue the result of laceration of the flexor muscle. Davies-Colley observed pressure sores occurring in his cases and ascribes this as the specific cause of the contractures. Bloodgood[17] doubts the myositis theory resulting from anaemia of the muscles and thinks that the specific cause of the condition is injury to the blood vessels at the time of the accident. After carefully considering all of these divergent opinions expressed by competent observers who have seen and treated the condition, one is lead to believe that contractures may be due in the majority of cases to ischaemia of the muscles and nerve involvement; still, in rare instances, injury to blood vessels, direct injury to the muscles, or contraction of scars, is probably the cause. The scope of this paper will not permit a discussion of the prognosis or the forms of operative treatment now in vogue except to say that the prognosis is bad in those severe forms where there is much destruction of muscle, tendon, nerves, or vessels. In the less severe form good results have followed tendon lengthening and bone resection and freeing of the nerves where indicated. In regard to the latter procedure is must be remembered that the condition of a muscle is dependent upon its nerve supply and one must not expect restitution and regeneration of a muscle without it. Nerves may also recover under treatment by electricity and massage and this probably explains the good results sometimes following the use of these and orthopedic measures.

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SOME ASPECTS OF CARDIO-RENAL DISEASE.*

BY LOUIS M. WARFIELD, M. D., AND R. L. SCHULZ, M. D.,
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Within the past three years a great impetus has been given to the study of cardio-renal diseases by the discovery of certain functional tests for kidney efficiency. At the Milwaukee County Hospital we have been using some of the tests for the past two years. The results in a series of cases were reported last year by one of our assistants, Dr. J. B. James. Since then we have rather broadened our scope and wish now to give in brief a resume of our studies with a short review of the important points from the literature.

No one will dispute the growing importance of the large group of cardio-renal cases. To whatever we choose to attribute the increase in the number of these cases, the facts stare us in the face and compel us to look as carefully as we can for the earliest signs so that we may prevent the gradual growth of the disease, or even forestall it altogether. We, ourselves, believe that luxury in food and drink, intense mental application to large business cares, with the attendant worries, are among the most potent causes of the actual in-

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crease in cardio-renal disease. Overeating and overdrinking are not monopolized by any class but are found from the day laborer to the millionaire. Thus we see the cases in all classes of society and wherever we see the cases the symptoms are as much alike as is the case in any disease. We became especially interested in this subject because we are studying blood pressure and blood pressure is so intimately bound up with nephritis and heart disease that we were compelled to extend our studies in order to be able to gain any data of value to us and to others.

When we look at the subject in its ultimate analysis two problems stare us in the face: (a) how we can determine how long the kidney will be able to excrete substances brought to it by the blood, substances which if retained seem to be toxic, and (b) how can we determine how long the heart will be able to last with the enormously increased load placed upon it by the gradually rising peripheral resistance.

Could we answer these two questions satisfactorily we should be far on the road to the prevention of these cardio-renal diseases or to the accurate prognosis of the fully developed disease.

We have at least gone far toward solving the first question. For many years physicians have endeavored to estimate the functional capacity of the kidney by injecting various substances into the tissues or veins and noting the time of appearance in the urine. A great many substances have been used and much laborious research has been carried out. We are forced to admit that much of the work has only historical interest now. We are left today with a few well-tried substances and even these are being narrowed down to four, common salt, potassium iodid, lactose, and the newest of all, phenolsulphonephthalein.

In spite of the enormous work of Widal, Javal and the French school on the retention of chlorides in the body, there is no agreement among men as to the actual value of prolonged chloride determinations. Some go so far as to doubt the value altogether. Certainly results very conflicting are obtained where the urine is followed daily for several weeks.

The German school headed by Schlayer and Takayasu have made elaborate studies on renal function using the first three substances and a measured quantity of water. Out of the mass of collected data only a few of their conclusions seem to have stood the test of critical observation. Schlayer's results based largely on the excretion of KI will not bear close criticism.

Since Rowntree and Geraghty published their results with phenolsulphonephthalein, a chemical dye substance dark red in alkaline solution and colorless in acid solution, they and their co-workers have added much to our knowledge of cardio-renal diseases.

In a recent paper by Rowntree and Fitz is reported an extensive study of cardio-renal cases and it is concluded that the functional condition of the kidney can unquestionably be determined much more accurately by the use of these tests (salt, KI, lactose, phthalein, incoagulable nitrogen of the blood), than through ordinary clinical studies alone. The phthalein test is of great diagnostic and prognostic value. For general use it is of more value prognostically than any other single test; diagnostically also it is of value in cardio-renal disease for determining the relative responsibility of the heart or kidney for the clinical condition.

The lactose test is of great value diagnostically in determining the existence of abnormal renal function. The significance of its delayed excretion is obscure. The suppression of the excretion of lactose may be of considerable value prognostically.

The salt test if considered alone is of no value, since it is subjected to so many extra-renal factors. When considered in conjunction with clinical and other functional studies, it may prove of some value diagnostically and prognostically.

The amount of water excreted in cases of pure nephritis in response to sodium chlorid stimulation may be of diagnostic value.

The potassium iodid test is of little value diagnostically or prognostically.

The marked accumulation in the blood of incoagulable nitrogen, in cases of nephritis, when present, is of considerable prognostic value.

It is possible in cases of cardio-renal disease with varying degrees of chronic passive congestion and nephritis to determine which factor is of greater importance in the causation of the clinical picture encountered. This can be done most readily by repeated phthalein tests, while the determination of incoagulable nitrogen in the blood may also be of value; the lactose and iodid tests are of no value in this respect. It is possible by these

tests to diagnosticate the presence or absence of impairment of renal function in cases in which clinically nephritis is suggested. In this respect the lactose and phthalein tests are of most value.

Rowntree and Fitz also showed that the phthalein was excreted exclusively by the tubular epithelium, whereas the lactose was excreted by both glomeruli and tubules. The trend of opinion is to judge of the functional capacity of the tubules by the excretion of phthalein and of the glomeruli by lactose excretion although it is admitted that this sharp line is not wholly justified by the work done up to the present time. Further it is found that in mild grades of experimental passive congestion the phthalein excretion is normal. It becomes less in moderate and still less in severe grades of passive congestion but returns to normal when the congestion is relieved.

For the past two years we have been using the phthalein test and during the past summer have also used the lactose test. As a result of our studies of the cases we think that we can recognize clinically five groups of cases:

Group I. Cases of high pressure with decompensation and practically total loss of renal function with uremia. As an illustration the following case is cited:

Hospital No. 12995, a white man 41 years old, complained of cough, shortness of breath and swelling of the feet. He was a painter and had had lead colic. For five months he had been troubled with swelling of the feet and progressively increasing shortness of breath.

On physical examination he was dyspneic and cyanotic. The heart was enlarged, especially the auricles and there was a to and fro murmur over the body of the heart. The blood pressure several weeks before on his first admission was systolic 194, diastolic 150. In the present admission it ranged about 160 systolic and 130 diastolic, showing evidences of heart weakness. The liver was much swollen, the feet and legs were edematous. The phthalein exertion was constantly about 10% for two hours. The first lactose test was slightly delayed. Later when he was worse it was again tried but owing to a glycosuria it could not be tested. The patient gradually grew worse, there was marked air hunger and although he lived some days in semi-stupor, he finally died.

At autopsy the kidneys revealed a most intense grade of interstitial change. Many glomeruli were hyaline masses, there was almost no cortex and the surface was scarred.

Group II. Cases of normal or low pressure with decompensation and normal or slightly diminished renal function.

These are the strictly cardiac cases characterized by the usual symptoms of precordial distress, cough, shortness of breath, swelling of feet, legs and abdomen. There are signs of dilated heart, edema of lungs, enlargement of liver, ascites, edema of legs and scanty urine. The phthalein in these cases is usually normal. If the signs of chronic passive congestion are extreme the phthalein output may be low but as the condition improves, the excretion rapidly becomes normal.

When first seen it may be impossible to tell whether the heart or the kidney is the primary factor. The phthalein is of the greatest assistance in differentiation.

Group III. Cases of normal or low pressure with decompensation and diminished renal function with terminal high pressure and loss of renal function.

Hospital No. 13026, a white man, 29 years old, complained of pain in the chest. His past history was uneventful with the exception of a syphilitic chancre seven years previously. For some time he noticed that he became short of breath on slight exertion and two months before he entered hospital his feet began to swell. Quite recently he had swelling around the eyes. The apex beat of the heart was located in the 6th interspace, 13 cm. from the mid-sternal line. There were murmurs at apex and base. a collapsing pulse, rapid heart. W. R. negative, blood pressure 146 and 70, pulse pressure of 96 m.m. Hg. The urine showed albumin and casts, specific gravity 1014-1020. The phthalein output was 36% at first. The lactose was much delayed, over twenty-four hours. The patient developed a remittent temperature but the leucocytes were only 5,700 and examination of the blood was negative. The phthalein was then 28% and the blood pressure was rising, 162—42—120. Another phthalein showed 35%. He gradually grew worse. The urine contained considerable albumin and many granular and hyaline casts. Venesection was performed. The blood pressure rose to 220—60 two days before he died. Venesection was again performed but he gradually sank and died. Autopsy showed an enormous heart with incompetency of the aortic

valves. The kidneys revealed the picture of acute parenchymatous changes.

Group IV. Cases of moderate pressure with decompensation and decreased renal function.

These cases would appear to fall in the group long known as chronic parenchymatous nephritis in which the myocardium is full of fibrous tissue and any undue strain breaks the compensation of the heart.

The following is an illustration: Hospital No. 13054, a white man 47 years old. Complained of swelling of the feet and pain in the back. His past history was negative. Syphilis was denied. About ten days before we saw him, he came home from work (a laborer) and noticed that his feet were swollen. The swelling increased and he went to bed. There were pains in his back and some vomiting, but he did not complain of shortness of breath. When seen he was edematous up to his abdomen. The heart was dilated with gallop rhythm. Blood pressure 148-98. The urine contained 5 gms. albumin to the litre and was scanty, 400 cc. The phthalein showed 29% for two hours. The lactose somewhat delayed. As he improved and the edema disappeared the urine still contained large amounts of albumin and all kinds of casts, especially granular. Another phthalein showed 41% for two hours. The urine output varied somewhat, as high as 2600 and as low as 800 cc. He left the hospital much improved.

Group V. Cases of high blood pressure, no decompensation, but with loss of renal function.

These are the strictly renal cases where the patients have chronic uremia or suddenly in the midst of apparent health have a uremic attack and die of uremia without symptoms on the part of the heart.

Hospital No. 13065, a white man 38 years old, came in complaining of kidney disease and some loss of vision. He had scarlet fever when a child. He denied syphilis. For two to three years he has noticed frequency of urination at night and a few months before admission ankles and eye-lids were swollen. Ten weeks before we saw him, he suddenly found his vision was dim. This followed a severe headache. After this he had some vomiting at intervals.

On admission there was no edema. The blood pressure was 220—120—100. Examination of the eye-grounds showed a marked grade of albuminuric retinitis. The heart was enlarged downwards and to the left. No murmurs were heard. The urine was of low specific gravity, contained a small amount of albumin to a trace and few hyaline and finely granular casts. The phthalein showed no excretion for two hours on several occasions. The lactose was also markedly delayed. In spite of treatment, he showed no improvement, the headaches increased, there was never any edema and two months after entering hospital he became unconscious one morning and died in a few hours. No autopsy was permitted.

In studying these groups it has seemed to us that groups I and V are doomed from the start. They are much alike, the difference being only in the fact that whereas in the first group the heart gives out under the strain of high pressure, in the fifth group the uremic poison takes the patient off while the heart is still able to carry on the circulation at the high level.

Cases in groups II and IV are the favorable cases. The prognosis is usually good, the patients may recover even from several attacks of decompensation.

In group III, one deals with a terminal infection which has its seat in the kidneys. This really may not be a well recognized group as we have had only one case. Still it has certain distinguishing features, so for the present it is classed as a separate group. We feel that a study of the cardio-renal cases by means of these newer functional tests is a great step forward in diagnosis and prognosis.

So far as one may judge from the careful work already done, only two of the tests need be performed the lactose and phthalein and often we may get all our data from the phthalein alone, repeated several times. There has been criticism of this viewpoint but until the critics can amass evidence which will outweigh the careful work of Rowntree and his associates, it would seem best for us to follow the greater amount of evidence.

NOTE—Phenolsulphonephthalein (hereafter phthalein) can be procured in 1 c.c. Ampoules from Hynson, Wescott & Co., Baltimore, Md. The colorimeter (costing $20.00) is also obtained from them.

Technique—Preparation of Patient.

One-half hour to twenty minutes before giving the drug the patient drinks two glasses of water in order to secure free diuresis. The patient urinates or is catheterized at the expiration of the 20 to 30 minutes and exactly 1 c.c. of the phthalein solution (the contents of one ampoule) is injected with a hypodermic syringe

deeply into the lumbar muscles. Collection of specimens—Allowing ten minutes for absorption of the drug the urine is passed into a clear vessel one hour and ten minutes after the injection and this specimen labeled one hour. Exactly one hour later the patient empties the bladder into a second clean vessel. This urine is labeled second hour.

Estimation of Amount of Drug Excreted.

Each specimen is separately estimated. Each is made alkaline with 10% NaOH and diluted to exactly one liter with tap water. A small portion is placed in the cup of the colorimeter the instrument held to the light and the scale moved up and down until the colors match. Several readings are made and an average taken. The small cup is emptied and cleaned and a portion of the second hour specimen previously alkalinized and diluted to one liter is put into it and the color read off. Normally the sum of the first and second hour should be from 60%-80%.

The standard solution in the long tube of the colorimeter is six mg. of phthalein to one liter of water.

Modification of Color Reading.

Take ten test tubes ⅜ by 4 in. Make dilutions from 10% to 100%, calling 6 mg. to one liter a dilution of 100%. Cork tightly and keep in rack. Alkalinize and dilute specimen of urine in usual manner. Fill a test tube of same size as those of test series and match color, the nearest being the per cent. in the specimen of urine.

Caution.—Specimens of urine should be tested as soon as possible. If inconvenient to test for a day then acidify the specimens with dilute acid. Also keep stock solution of phthalein acid. The color disappears but returns at once when the solution is rendered alkaline.

DISCUSSION.

Dr. L. F. Jermain, Milwaukee. The subject of cardio-renal disease is one which has merited and received the attention of the medical profession for a long time, and while cardiac pathology, thanks to the elaboration of the myogenic theory and the introduction of instruments of precision in recording the actions of the heart has made wonderful strides, our knowledge of renal disease is still far from definite and satisfactory. Most pathologists even do not agree as to the type of renal disease that they see under the miscroscope, and almost every writer on nephritis has his own classification. I think Dr. Warfield is justified, as well as anybody else, in making his own classification. If we have in the phthalein and lactose tests, tests which give us some relative idea of the functional capacity of the kidney, and perhaps may help us in recognizing certain clinical types, or even anatomical types of the disease, I believe that our ability to diagnose and prognosticate these cases has been very much improved. From what limited experience I have had with the phthalein test I am convinced that it is unquestionably the only really satisfactory functional test for kidney action that has ever been discovered, and should go a long ways towards answering the first of Dr. Warfield's questions: that is, how can we determine how long the kidney will be able to excrete the substances brought to it by the blood. The question whether we are dealing with a primary renal disease and tell him wherein he is erring. Cut down his total and secondary cardiac disturbance, or primary cardiac disease with secondary renal disturbance is always a perplexing one. Personally, I have relied almost entirely upon the blood pressure in these cases. I find that in primary renal cases, even though the heart is greatly embarrassed, and even though there is decompensation, the blood pressure remains relatively high throughout. These tests however, will undoubtedly aid us greatly, as Dr. Warfield has suggested, in differentiating between a chronic passive congestion of the kidney, due to heart disease, and a primary renal disease. The question of relation of high blood pressure to renal disease is always an interesting one. Personally I believe that both are frequently the result of the same condition, namely some toxic substance circulating in the blood, be it incoagulable nitrogen or some other product of metabolism, The effect is the same. We have an irritation of the center of vaso-motor constriction. That leads to increased peripheral resistance. Increased peripheral resistance leads to more work for the heart. More work for the heart leads to hypertrophy, and the irritation of renal parenchyma going on at the same time, leads to degeneration and the overgrowth of connective tissue; sclerosis. How else can we explain those cases in which high blood pressure practically precedes all other evidences of renal mischief? There are many of those cases if you get to see them early enough. We hear of non-albuminous nephritis, and that is the type I especially refer to. If these patients are examined early enough, you will find that they have high blood pressure, probably slightly hypertrophied hearts, perhaps some dyspnea on exertion, increase in the quantity of urine, probably some lessened specific gravity, and the nocturnal quantity in excess of the diurnal quantity. Those are the earliest manifestations. Dr. Warfield referred to the etiology in these cases. I heartily agree with him in this respect. I have long believed that over-eating is one of the most prolific causes of nephritis. A man in business, or a professional man, apparently in robust health, somewhat portly, between 50 and 60, comes to our office. His blood pressure is high. He has all the evidences of cardio-renal mischief. We ask him about his habits. He says, he never drank to excess, never smoked to excess, always a model man in every respect. But, when you come to ask him about his habits of eating, he will tell you that he never thought he had to be careful about that; he was always a hard-working man, and he always thought he had the right to eat as much as he wanted to; as much as he cared for. Now I believe that most men, especially men above 40, eat too much. The intake is in excess of the output, and the result is a disturbance of this fine balance between metabolic and excretory activity. I believe that the kidney has a reserve function the same as the heart. When that is lost, then we get renal disturbance.

The early diagnosis of these cases is just as important as the early diagnosis of tuberculosis, if you wish to benefit these patients. Take a man of this kind at that stage. Don't give him any medicine, because that distracts his attention from the more important thing. Sit down and have a good heart to heart talk with him

proteid food, and above all cut down the total quantity of food which he is consuming. Let him feel the pangs of an empty stomach, not once a month or once a week, but every day, and you will be surprised how soon his blood pressure will come down, and how many years you can add to a useful and active life.

DR. TOWNSEND: As a country practitioner, miles away from a laboratory, miles away from these things that medical schools have and that our state university has, I have come here in common with the practitioners who practice in the country, to get knowledge to help us to make better practitioners, and all I have heard to-day is chemical tests and not one word on physical diagnosis. How easy in this last paper that was read, it would have been to have said to us who are country practitioners, how we, as country practitioners, can diagnose these cases that come to us. Sometimes we are called in the middle of the night to a man 50 or 60 years old with an attack of what he calls asthma and what we call asthma. Now we all of us know that asthma does not come at once to men who are 50 or 60 years old, without a heart or a kidney complication back of it. Why not then say to us to look for a heart or a kidney complication, to look for the heart to see if it is hypertrophied, to inquire of the man if he passes a great deal more urine in the night than he does in the day; then we can diagnose that case as interstitial nephritis.

Now the trouble is that we are coming to rely, or, rather, getting to rely too much upon laboratory diagnosis and not upon our own senses. I know that the country practitioners without the test tubes, and without the reaction, can treat those cases. They know when a man has kidney disease, by the headache, by the optic neuritis, by the loss in flesh and by the shortness of breath, and by the asthmatic attacks. They know all those things, and yet we come here and we have doled out to us tests, tests, tests, instead of telling us how we can use our own senses. The old country practitioner, when the man had swelling in the eyelids, and swelling of the fingers, knew that 9 chances out of 10 he had a kidney disease, and with the microscope he examined for tube casts, and with the test tube he examined for albumin. That is differentiating between the two types of kidney trouble. Now as country practitioners I believe the time has come to call a halt on so much of this talk from professors. Of course they give us ideas. Of course they open up to us the new discoveries, and the new worlds, but we want something practical, because we are practical men, and we have to deal with the common people, who know nothing of tests and reactions and phagocytes and all those things. For my part I voice a protest against so much coming from professors instead of coming from practical men who are doing the real work of the medical profession in the state of Wisconsin.

DR. WARFIELD: Mr. President, and Members of the Society: I don't know just exactly what I want to say, because I am responsible for this program. I, and I only, am responsible for this program, and when I made up this program I made it up with the idea that there would be here in this town to-day many a general practitioner; and I made up my mind there was no use telling the general practitioner what he already knew. There wasn't any use getting up here before a lot of men and reading a history of one case, and how to make one operation, or how to make an examination of the heart. Those things one learns in the medical school. Those things one gets from his wide experience. Those things he already knows. And why should we, as a big body here, trying our best to advance as we only can advance by meeting and swapping ideas—why should we go back to the time when all these little papers were read, and why should we come here to gain a little bit of extra knowledge? Therefore I tried my best to get on this program certain features that I thought would be interesting to the mass of the profession, not only to one small body, because we are physicians and we are surgeons, and we are eye men, and we are working along the various lines in general medicine.

I wish to say that nobody asks a physician under the circumstances that Dr. Townsend has related, to use the laboratory at once. No one has a laboratory in his pocket. Laboratories are at your office, or they are at the University of Wisconsin, or they are at other universities. But what we think ought to be asked is that one use not only his own little laboratory in his office, which may not be large, but may be used exceedingly well, and also make use of the larger laboratories, not only for his own benefit, but for the benfit of the patient.

Now in regard to these tests to come back to what I was talking about, it is not at all a difficult thing. In fact I say that anybody who could not do this test really does not belong in the practice of medicine. I even go so far as to say that. Now this instrument that I have just displayed, cost $20. We don't need to have that instrument. One can have a series of ten test tubes, and by diluting this drug so that he has a 10%, a 20%, a 30, a 40, a 50, a 60, a 70, a 80, a 90, a 100%, and using the same sort of test tube, after he has computed he can compare, and he can come so close to it that that instrument itself will not be any more accurate. Now if that is not a perfectly simple test, as easy as finding albumin or sugar in the urine, then I want to know what it is. If by so doing we can do our patients any good, we can further the advance of our own knowledge and prognosticate cases that we could not do before, then I think we are telling the medical profession of Wisconsin something, and we are not bringing them here just to hear tests, and nothing but tests.

TUBERCULOSIS OF THE TRACHEO-BRONCHIAL GLANDS IN CHILDHOOD.*

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It is being realized more and more definitely that the tuberculosis problem is one intimately re-

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lated to childhood. Autopsy findings prove to us that about 70 per cent. of all children that die between the ages of 11 and 14 years have had tuberculosis. The autopsy table also teaches us that after the seventh year of life, manifestations of healed tuberculous lesions are found more and more frequently. Since we must regard the tuberculin reaction as a specific reaction, it has been demonstrated that of all living children from 50 per cent. (Engel & Bauer) to 94 per cent. (Hamburger) have had tuberculosis.

Sir Robert Philip of Edinburgh expresses the opinion that at least 30 per cent. of the children of school age in Edinburgh present definite evidences of tuberculosis, while Sir George Newman, the medical statistician of England, regards at least 1 per cent. of all school children as tuberculous. In Vienna, Winter, (Wien. Kl. W. 45, 1912,) the chief medical officer of a higher business school for boys from 14 to 16 years of age, found 15 per cent. with evident signs of pulmonary tuberculosis. Dr. Mary Williams (Lancet, June 4, 1910,) examined 3159 school children and found 16.2 per cent. suffering from tuberculosis. According to these figures there must be at least 500 children in the schools of Milwaukee exhibiting evident manifestations of tuberculosis. These are not advanced cases, but these are the cases that later on will swell our already large register of adult advanced cases.

Unfortunately the mortality rate of children dying from tuberculosis has not decreased during the last 35 years. To prove this I cite Behla, (Berl. Klin. W. Oct. 20, 1913,) who informs us that while in Prussia the total mortality rate from tuberculosis has dropped from 30.95 for 10,000 living in 1876 to 14.58 in 1912, the decline for children *under 15 has not been worth mentioning.* The variation for the years from 5 to 10 has been from 4.17 to 4.23, a slight increase even, and between the ages of 10 to 15 years from 5.71 to 5.21, a slight decrease. This is so much more remarkable, when we consider that the mortality from other infectious diseases amongst children has dropped so greatly. Diphtheria, e. g. has dropped from 55.09 to 6.98.

Albrecht found in 100 autopsies on the bodies of children dead in a children's hospital, 87 per cent. having tuberculosis of the tracheobronchial glands. Between the ages of 6 to 10 years, 83.6 per cent. were thus affected and between the ages of 10 to 16 years, 92.3 per cent. Again, Neumann found in 104 autopsies 46 cases of manifest tuberculosis of the bronchial glands. In other words up to about 12 years tuberculosis of the tracheobronchial glands plays the same role, as far as frequency is concerned, that tuberculosis of the apices plays amongst adults.

Symptoms. The absence of characteristic constitutional and focalizing symptoms make its diagnosis very difficult. It is possible that children have greatly enlarged mediastinal and peritoneal tuberculous glands without showing any very marked impairment of health. The subjective symptoms of lassitude, irritability, depression alternating with buoyancy of spirits, pain in the chest and back are of little value, excepting as they arouse our suspicion as to a possible tuberculous affection. Sweating is a frequent symptom and its value as a diagnostic factor increases with progressing years. The temperature is variable, often subfebrile, especially after exertion, but not characteristic. Of greater value are the evidences of a lymphatic diathesis; as chronic catarrhs of the respiratory tract, phlyctenulae, eczema at the transition of skin and mucous membrane, enlarged glands of the neck, asthenic habitus, dyspepsia, and tachycardia.

Dr. D. M. Taylor has drawn attention to periodic illnesses which such children suffering from glandular tuberculosis endure. He says the signs and symptoms of such attacks are: 1, during the attacks the temperature rises in the late afternoon to 100° or more; 2, there is loss of appetite, gastric disturbances or actual vomiting; 3, cough or catarrhal signs or glandular swellings; 4, any existing otorrhea, rhinorrhea or blepharitis, or enlargement of the glands is for the time being exaggerated; 5, the child shows nerve signs, is irritable, becomes peevish, sulky or wayward, changed in manner and dull or inattentive at lessons; 6, there is flagging, and fatigue signs rapidly appear on slight exertion. Attacks of this kind lasting from 48 hours to 4 or 5 days recur at intervals of weeks and months, and in my opinion indicate that the child is reacting to a dose of tuberculous poison, or tuberculin, if you please, which it has administered to itself. After the attack the general condition of the child is much improved and reminds one of the immediate beneficial effects of a tuberculin injection. A valuable symptom is a spasmodic, bellowing cough, without expectora-

tion, or obvious cause, very much like whooping cough without the final inspiratory effort. It is thought to be produced by pressure of the enlarged infratracheal glands upon the trachea, and can at times be elicited by having the patient swallow when the head is extended backward. This cough can be increased by an injection of tuberculin. Rather characteristic when present are manifestations due to a compression of the trachea or bronchi as dyspnoea, or a whistling high pitched expiratory rattling, possibly to be heard at a distance. As every acutely inflamed gland is tender so also are the bronchial glands in this condition. They may manifest themselves as pain during swallowing.

Signs. The many lymph tracts of the lungs empty into the tracheobronchial glands. Anatomically there is a connection between the tracheobronchial and the supraclavicular glands at the bulbus of the jugular vein, but there is no direct communication with the cervical glands. Since the supraclavicular glands are difficult to be gotten at we have to rely upon the tracheal glands for definite signs. An important sign, though not very often found, is the impairment of the parasternal resonance, usually at the level of the second or third rib or the second intercostal space.

There may be a corresponding dullness in the interscapular spaces over a region bounded by the level of the second to fifth dorsal spines. Over this area one may frequently find bronchophony of the whispered voice, increased vocal fremitus and changed breath sounds. Of value is Koranyi's palpatory percussion of the spinal vertebrae, especially the fifth and sixth dorsal spines frequently manifest a dullness and an increased resistance due to enlarged glands underneath. Auscultation may often confirm the percutory findings. Of course we must bear in mind that normally variations in the quality of the breath sounds are to be found in the region of the hilus. Still one often hears an exaggerated inspiratory and a very rough prolonged expiratory sound due possibly to inflammatory processes in the neighborhood of the glands.

Rather valuable is a musical expiratory murmur over the interscapular areas, one which may be increased during a tuberculin reaction. Dauwitz (Beiheft. Z. Med. Klin. 1908 H. 11) considers bronchophony of the whispered voice as one of the most certain signs when heard over the interscapular area bounded by the levels of the second to fifth dorsal spines. The most valuable sign is d'Espine's spinal auscultation. It depends upon the transmission of spoken or whispered voice sounds from the trachea and bronchi to the spinal column. Normally these tracheal sounds are heard as far as the trachea extends, i. e., in young children to the seventh cervical spine; in children to 8 years above the first dorsal; from 8 to 12 years above the second dorsal, and from 12 to 15 years above the third dorsal spine. We know that the intervertebral discs prevent sounds from being transmitted along the spinal column. If a spoken, or better a whispered, word with a bronchial accompaniment is heard farther down than normally, transmission is passed along some abnormal masses, in children probably tuberculous glands. The same phenomenon may be produced by cavities in a neighboring lung or by a pleuritic exudate reaching up as high as this, but other signs will definitely diagnose such conditions. The bronchial accompaniment is necessary as other conditions may allow the bare word to be transmitted e. g., emaciation, or a loud voice.

A proper use of the X-rays to demonstrate endothoracic glands is very difficult. De La Camp of Freiburg regards it as the most difficult field of roentgenoscopy. Calcified glands appear as bullet-shaped bodies, cheesy glands as more or less shadowy spots, and swollen glands are often not seen at all. One may diagnose shadows as glands only when they are more or less homogeneous and of a well defined margin. To decide whether these shadows are due to active or latent tuberculosis, the clinical findings are necessary. As an aid to the preceding, we shall have to make use of the tuberculin reaction. In young children the Von Pirquet may be of value, in older children the subcutaneous test will have to be applied. These biological tests are of themselves not sufficient to make a diagnosis, but taken in connection with the other findings are most valuable.

Gaffky and Roth of the Institute for Infectionskrankheiten inoculated guinea pigs with material of the bronchial and mesenteric glands of 400 dead children and obtained a tuberculous infection in 76 cases. Of these 98.7 per cent. were due to the human type and only 1.3 per cent. to the bovine type. Recent investigations, especially those of Ghon (Der primaere Lungenherd bei Tuberculose der Kinder, Berlin, 1912,) and those of Hedren

and Harbitz (D. M. W. March 20, 1913,) as well as Hamburger (Tuberkulose d. Kindesalter. 1912,) show that the opinion according to which infection in children takes place usually by way of the respiratory tract is gaining more and more ground. It is the infection from person to person that is to be dreaded.

Many years ago Koch noticed that tuberculous guinea pigs were more or less immune against a second small dose of tubercle bacilli, a greater or less immunity could be established artificially. Behring confirmed these observations by being successful in immunizing cattle and monkeys. Clinical observation also speaks in favor of an acquired relative immunity. We know for instance that the cervical glands of an advanced tuberculous patient are infrequently much infected, in spite of an almost constant opportunity for infection. Amongst married persons one mate infects the other in only about one-fourth to one-third of all cases, in spite of the very many opportunities married life presents. On the other hand, it has been proven that in parts of the world where there is little or no tuberculosis, as parts of Turkey, Chili, etc., an arising case assumes a much more virulent and rapid course than it does in parts where wellnigh everybody has been infected during childhood. It hence appears advantageous that every child pass through an attack of tuberculosis. But the amount of infection must not be too great or too massive, otherwise the system cannot overcome the infection completely. These cases of massive infection during childhood are possibly the ones that recur during adult life. Roemer believes with others that a manifestation of acute tuberculosis during adult life is always due to an autoinfection, not to an infection from without.

Be that as it may, there is no doubt that we must guard children against the possibility of a massive infection, such, for instance, as one to which a child is exposed in the neighborhood of a careless parent. Secondly, we must place all children in such a bodily condition that they may be able to do away with the infection which they cannot possibly escape; we must raise their immunity or their allergy. It has been attempted to do this by injecting subcutaneously, or by rubbing into the skin, a series of small doses of tuberculin. Whether these methods are valuable only years of patient observation can tell. The other way at our disposal is to take the child out of its dangerous environment and place it into the best possible sanitary and wholesome conditions. This is largely a question of economics and education. The one end in view is the increasing of the resisting power of the children. It is during childhood that infection takes place and any really effective measures in our fight against tuberculosis must be instituted at this period. The only plan that guarantees success is to render innocuous the disease during childhood and increase the resistance of the child thereafter. The more completely we are able to accomplish this amongst the children of one generation the brighter is the outlook for the adults of the next generation.

RADIOLOGICAL CONTRIBUTIONS TO A DIAGNOSIS OF OBSTRUCTION IN THE ALIMENTARY TRACT.*

BY PAUL EISEN, M. D.,
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"Infection and obstruction, together or apart," as Sir Bertrand Dawson has well said, "make all the ills from which a patient derives abdominal trouble." These words in Sir Berkeley Moynihan's[2] Address in Surgery before the British Medical Association in July, 1913, may seem very radical and may be found to be at fault in a few selected cases, but in the general run of patients with abdominal complaints they hold good. My excuse for bringing this paper before you is to show how easily, quickly and accurately even relative obstructions can be determined by means of an X-ray examination with the use of both the fluoroscopic and radiographic methods.

1. Naturally the first and foremost question is the location of obstruction. This can be ascertained by watching the progress of a contrast-meal and noting where it is retarded or by observing a similar retardation after injecting a contrast-enema. By the latter method the colon is visible in its entirety in a few minutes, but this is also the more uncertain method, necessitating at least a repetition in a fortnight, to exclude spasmodic contraction. Besides, it is confined to the colon, except where is passes the ileo-cecal valve, whereas the former method is more definite, as it reproduces normal conditions. Any marked alterations

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in the topography of the alimentary tract, e.g., partial stenosis, angulation, etc., can be recognized by those familiar with usual conditions in patients similar to the one under examination. After determining the site of the obstruction, it is very often possible, by proper manipulations during fluoroscopy, to judge if the cause of the obstruction is in the gastro-intestinal tract or external thereto, but this is not always possible. If the obstruction is relative, it is more likely one can judge, if it is intrinsic or extrinsic; otherwise we must reserve our opinion in this respect.

2. An especial advantage of a proper radiological examination is that it permits of a complete examination of the whole gastro-intestinal tract, and whenever this is possible it should be demanded. If this rule be followed, the roentgenologist will not only disclose the place or places where these partial obstructions obtain, but may be able to give a satisfactory explanation as to their nature, their relations and etiology. Thus the number of constrictions in the esophagus may be demonstrated, double obstruction in the stomach and at the pylorus in multiple ulcers, the doudenal and ileal retention in so-called Lane's kink with gastro-mesenteric ileus.

3. Equally important is it to know the full extent of the area distal to the site of obstruction, the length of the obstructing part, its degree of stenosis, if varying or constant, the degree of dilatation of the part proximal to the stenosis, in order to judge the time it has taken to develop. Often the shape of the obstructing area will allow a surmise as to the etiological factor, as for example in the two forms of hour-glass stomach characteristic of ulcer and cancer,[8] or the outline may directly demonstrate an ulcer-pocket. At any rate the lumen can nearly always be determined in its completeness, if examined in both the erect and prone positions, these giving important data as to how to effect repair. Thus, in double gastric obstruction, a rational gastro-enterostomy will be effected at the proximal pouch, or in intestinal obstructions a short-circuiting of the bowels will be chosen at the most suitable point or points. An extensive ragged outline along the lesser curvature in cases of suspected gastric carcinoma involving the cardia will discourage a laparotomy. On the other hand if a seeming narrow stenosis in the stomach lacks confirmation of an exaggerated peristalsis with secondary dilatation proximal to the supposed[3] hindrance, then we may assume the latter to have been but of short duration and possibly amenable to internal treatment.

In duodenal obstruction there must be present, besides dilatation, at least peristalsis and often anti-peristalsis.

4. If repeated examinations are the rule and not the exception, then there is usually little difficulty in determining abnormal fixations or movability. That organs or parts of the gastro-intestinal tract were dystopically situated and bound down by adhesions has been frequently demonstrated radiographically and confirmed at subsequent operations; the stomach, duodenum, hepatic flexure, appendix, points of the transverse colon, splenic flexure and sigmoid are some of the places found fixed, while the exaggerated movability of the greater curature of the stomach, the cecum, transverse colon and sigmoid have frequently found their operative confirmation.

5. More definite information as to the relation of the tract to adjoining parts or organs or parts thereof may be obtained, if their presence could possibly cause obstruction; for example, retroperitioneal tumors almost invariably move the viscera medianwards and forward, which causes obstruction at the natural point of fixation. The exact relation of the appendix to the bowel can be determined if the lumen is patulous, or, if constricted, at what point or points. The relation of the duodenum to the hepatic flexure and under-liver surface has been accurately determined. The presence of a mega-sigmoid in the liver region in Hirschsprung's disease has helped to explain the degree of obstruction in the erect position caused by angulation with the rectum.

6. As intra-abdominal pain, aside from inflammation, is either called forth by distension or traction, it is very often possible to elicit the identical pain most prominent in the patient's mind by suitable manipulations during examination and noting the relation of its location to other parts of the digestive tract, to the degree of pressure required to produce it, to the surface, to the time of onset of pyloric spasm, to the degree of distension on inflation, as well as to its bearing on the regional accumulation of gas in the tract or intraperitoneally in perforations. Thus the agreement in the location of obstruction and the source of the pain, as called forth by examination, gives one a clue as to the possible nature of the hindrance.

Thus the pain on traction or inflation at points of kinking or fixation, the reliability of the Bastedo[1] test in appendicitis, the lack of relation of pain to the appendix in hysteria, the explanation of the patient's feeling of weight and fulness in ptosis following severe obstruction and dilatation can be shown.

7. A reliable estimation of the degree of stenosis as well as the degree of compensation may be obtained only through prolonged observation, any less than twenty-four hours being of little or no value. Obscure conditions may demand observation over two, three or four days, even five and six being sometimes necessary. If time alone were taken into consideration, serious mistakes are apt to ensue, as in drawing conclusions from the six hour shadow in gastric retention. A very small residue is of little significance, if found only once; on the other hand, in duodenal obstruction, the smallest residue at the time the stomach is empty may mean a very serious condition, that of perforated ulcer, or at least retention due to or at site of an ulcer, or merely indicate chronic gastro-mesenteric ileus. The relation of the quantity of the contrast meal distributed in the colon after 48 hours gives an accurate idea of the seat and degree of constipation,[7, 9, 10] the head of the fecal column having reached a certain point.

8. Following the strides made in surgery toward establishing a living pathology on pathological physiology, roentgenography has now caught up with its big sister in demonstrating the interrelation of stomach complaint and abdominal trouble, pyloric spasm being the demonstrable lesion causing much of the complaint. When Moynihan[2] says: "In my experience there is no appendicitis without obstruction," he corroborates the findings seen at operation with those demonstrable with the rays. Not only is there gastric retention due to pyloric spasm, but also ileal retention due to spasm of the ileo-cecal valve. How often clinical "ulcers of the stomach" are located in the right iliac fossa, has been shown repeatedly. Where a true kink is the cause of obstruction, retention and dilatation can be accurately seen radiologically. On the same basis, functional disorders can often be correctly substantiated or ruled out; especially is this a blessing in hysterics, where a harmful operation can be avoided or a curative intervention devised upon the basis of accurate knowledge.

9. It is taking a great responsibility upon one's shoulders to advise or rule out an operation, yet this is what one is repeatedly called upon to do. That this is possible in some cases, operative findings have justified, and only lately has W. J. Mayo[4] stated that cancer, if operable, almost always has caused obstruction. It is the unobstructing inoperable scirrhus that may unsuspectedly pass the operative stage. The degree of obstruction may in some cases justify one in trying internal treatment, as in patients with general lack of tonus, the congenital asthenics. Especially is this true in constipation,[5] which is as often due to gastric as colonic retention, the obstruction being easily overcome with an increase of muscular tonicity and fat deposit. Abdominal exercise, deep breathing, correct carriage and proper attitude during defecation may then again make a biped out of many a quadruped.

10. An inviting field of investigation and one that is becoming daily more imperative is opened to the surgeon, to study the post-operative effects of short-circuiting. The examination under approximately normal conditions, especially in the erect posture, will give him many a valuable hint as to the efficiency of the method employed and the rules of living he imparts to his patient. The dire effects of retrograde transportation into a bowel closed at the proximal end quickly put this method in disrepute, while correctly devised entero-enterostomies have frustrated needless resections of the colon, a dangerous operation now but seldom justified.

11. At present it is not possible to give any definite information with the X-rays as to the nature of the obstruction if these findings be taken by themselves, but in conjunction with other clinical data, they may verify a suspected or establish an unsuspected etiology. If there is no bile in the feces of an infant that presents the forward moving, round, contracting tumor along the transverse or descending colon of an intussusception, the cup-like head of the contrast-enema may substantiate this claim, although the radiological examination can no more show up the source of the invagination than the clinical examination. One cannot as yet detect involved glands in an otherwise eradicable case of cancer or demonstrate in *all cases* metastatic involvement of the liver, ovaries or other organs, yet metastases to the lungs, upper surface of the liver, and bones can be

recognized and thus more than useless surgery be avoided. Besides, the contrast-enema may even have a positive therapeutic value in causing a reduction of the invagination when given early.

However, I believe it to have been demonstrated that no examination of the alimentary tract showing obstruction other than acute can be deemed satisfactory without a radiologic examination, where the condition of the patient allows it; neither are radiologic findings of any value if not considered in conjunction with the history and other clinical findings.

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DISCUSSION.

Dr. J. L. Yates, Milwaukee: Clinical radiological study of the progress of gastro-intestinal contents during digestion is said to date back to Rieder's investigations of the colon in 1904. Since then roentgenologists have developed virtually all that is known of the mechanics of digestion which fortunately seems to be a satisfactorily reliable indicator of the normal in that complex physiological function. In addition they have given surgeons an accurate method of estimating the effects of operative measures, furnishing therewith a means to an early development of rational therapy in disorders that otherwise would long have been subjected to empirical treatment, too often ill-advised, frequently actually harmful, and at times of unwarranted danger.

Dr. Eisen's claim that his most important specialty is following surgery in establishing a living gastro-intestinal physiology is too modest. Surgery is coming more and more to follow the lead of the expert roentgenologists in using this simple, safe means of advancing our knowledge of this far reaching problem in medicine, affecting as it does every department, scientific and therapeutic.

From a surgical viewpoint, however much credit may be taken for advances made in the treatment of diseases affecting the digestive tract, there is so much that is less creditable in the sins of both commission and omission that being given such an invaluable means of controlling not only diagnosis but treatment as well, it would seem inevitable to resort frequently to this aid if the best work is to be done.

Disregarding cases demanding immediate operative intervention, individuals complaining of digestive distress may be divided into three groups:

(1) Those presenting evidences warranting a positive diagnosis that can be confirmed at operation.

(2) Those in whom a provisional diagnosis is warranted but which may not find confirmation and,

(3) Those in whom no diagnosis can be much more than conjectural and in whom it is as yet often impossible for competent surgeons to make a positive pathological diagnosis even after a most painstaking exploration.

Be it asked for the sake of discussion, to outline the advantages radiography has to offer to these groups? Primarily it should be known the functional efficiency of any part of the gastro-intestinal canal is presumably largely to be estimated in terms of its ability to do its share of the work of digestion in normal time measured by its ability to empty itself, i. e., its mechanical competency.

Cases in group I would receive least benefit from radiographic investigation but would profit greatly in many instances because the main lesion in the diagnostician's mind may not be the only or even the primary lesion in the belly. The symptoms of a more obscure abnormality may be masked by those of the more prominent. The complete eradication of the symptomatically more outspoken lesion may not suffice to return an individual to health. Few surgeons can plead guiltless to such therapeutic errors. Dr. Eisen has shown on his telltale screen that I cannot.

Group 2 would show a very large proportion of cases that would be benefitted by this aid to more accurate diagnosis and hence to better treatment. If an individual is suffering from such symptoms as might indicate the probability of a chronic gastric ulcer that individual wants relief that internists have been unable to afford; otherwise surgical aid would not have been sought. When the abdomen is opened if no ulcer is found, the owner is nevertheless there to be cured and not to be returned to consciousness and the comforting statement that the trouble is mental or that something has been done which should give relief and later does not.

The cases in group 3 all demand competent X-ray diagnosis, at least until clinicians have advanced materially in diagnostic power. Here are to be found many future members of groups 1 and 2 and at a time when their ailments are easily remediable without operation

or that can recover after comparatively simple operations if done early. But the majority are of that forbidding type with which all are too familiar. Just because a forlorn soul is tormented with epigastric distress and constipation and is of necessity neurotic there is no reason to rely on carminatives, cathartics and wait till someone else is consulted, ultimately a charlatan. A considerable proportion of these sufferers, it cannot be gainsaid, are so wanting in normal and physical stamina as to be quite impossible of improvement; but herein judge not too hastily. These individuals present the various types and degrees of ptoses and ectasiae, some localized and some more general. Relative recovery, satisfactory in extent, may attend nothing more radical than enforced sane hygiene, proper corseting, exercises, massage and tonics. Some surgical aid may in conjunction with such a regime give excellent results in more advanced conditions. None of this can be done as intelligently or with as good an outlook without radiographic aid, which alone can indicate any true physiological betterment.

Whatever be the causative factors, chronic appendicitis, various kinks and bands or other developmental or acquired anomalies, patients are more concerned in recovering health than in the great erudition of the surgeon who can correctly name and demonstrate the etiological abnormality. It must be determined whether resultant functional derangement has provoked secondary structural alterations that can or cannot return sufficiently to normal so as again to carry on effectively and permanently the ordinary functions. If such return is impossible, it would profit one but little to have the primary cause removed if the ultimate effect is but little influenced thereby. On the other hand one is little concerned about the occurrence of any degree of ptosis in stomach or intestines if this is to remain causative of no untoward symptoms.

Thus for example it is essential to know not so much the size, shape and position of the stomach in a prone position but rather to determine if under approximately ordinary conditions and in an erect position such a stomach can empty itself in normal time, i. e., is it competent? And if incompetent does it require some manner of surgical aid to regain its competency? A dilated duodenum seen at operation even when the first part of the jejunum is contracted may not be of serious significance. When, however, a duodenum can be seen filled with bismuth the presence of a chronic mesenteric ileus is apparently established and demands relief to avoid progressive invalidism. Mr. Lane has made a strong case for the recognition of the manifold ills resulting from the obstruction to the effluent of ileum at the ileocecal valve. In the large intestine, changes occur so characteristically as to have become well classified and are considered as the cause and to some extent the result of concomitant obstipation. (The cecum mobile [typhlatony]; a type affecting the ascending or transverse colon or both [Stierlin]; Sigma elongatum mobile [Kienböck]; the proctogenous variety [Strauss] or those showing general atony; the hypokinetic type [Schwartz] possibly a transitional stage in the development of acquired Hirschsprung's disease.)

If competency of any part or parts of the gastro-intestinal tract cannot be restored without surgical measures, and it must be said that there is as yet almost no data upon which to base an opinion, the exact nature of operative intervention, if indicated at all, is not so easy of determination, so little is known of the effects of various suspensions, fixations, plications, anastomoses and resections as have been recommended.

Under no other conditions is it more important to bear in mind that fundamental surgical axiom "If good cannot be done, at least do no harm," As much of the work has been carried on insufficiently, if at all, controlled by roentgenological studies, much otherwise avoidable harm has been done. Ill advised through beautifully executed operations have not infrequently caused increased disability and discomfort and even led eventually to a fatal termination.

There is a rapidly growing literature, illustrated with skiagrams and diagrams, showing the later results of operations performed for the relief of those disorders after varying periods together with detailed clinical histories that will soon make treatment less empirical. The evidence is of necessity not wanting in contradictions; one must remember also that X-ray observations are at times erroneously interpreted. These errors have resulted largely because the actionographers have been deficient in clinical and physiological training and because of want of a sufficiently close association and sympathy between them and therapeutists.

Thus Cannon and Blake (Ann. Surg., 1905, XLI., p. 686) considered that gastro-enterostomy, anterior or posterior, large or small as to stoma, was not a drainage operation (in cats), explained why it could not be such in man and gave excellent reasons for the physiological superiority of pyloroplasty. Recently Outland, Skinner and Clendenning (Surg. Gyn. and Obstr., 1913, XVII., p. 175) have shown by their own and others' postoperative radiographic observations that in man a properly executed gastro-enterostomy may be criticised for draining too rapidly. It is of value to know that the ideal treatment of gastric and duodenal ulcer, excision, followed by such a pyloroplasty as is possible promises the best results but that where this is impracticable gastro-enterostomy is not a poor substitute. Coffey (Surg. Gyn. and Obst.) has attained some excellent results with his hammock suspension of stomach and transverse colon, as has Rovsing (Journal A. M. A.) with his more radical fixation. It is just possible, however, that some such line of treatment as carried out by Bloodgood (Kahn, American Quart. of Roentgen., 1913, IV, p. 165) may not be more suitable to the more severe cases at least. A case reported in detail by Schmieden (Arch. f. Klin. Chir., 1913, CI, 697) indicates that even the hypokinetic type of obstipation is relievable if the proper method of short circuiting is selected. Indeed it is so well established that aside from some neoplasms, acute focalized inflammations and the results of certain ailments of the central nervous system, gastro-intestinal distress is so very certainly the result of stasis, the consequence of organic or functional obstruction, that one may adopt for the entire gastro-intestinal canal the postulates which Schmieden has

taken for proper treatment of chronic obstipation. The proper operation will provide without too great danger, (a) removal of the obstruction or shortening the path in the intestine to avoid the functional obstruction, (b) permanent functional and symptomatic improvement, and (c) guarantee against damming back of feces so common after intestinal exclusion.

This damming of feces occurs in single excluded loops of large intestine and results partly through passive shoving, partly through active retrograde transportation and produces pain, intoxication, ulceration,—even ulceration and death. This fecal retention, even while the bowels are apparently moving satisfactorily has occurred so frequently as to bring exclusion operations into disrepute. An answer to this well-founded objection is given in the following quotation from the article by Schmieden who bases his opinion upon "exact clinical investigation, namely through Roentgen-study." "When de Quervain rejects anastomoses by and large I beg to qualify that upon the basis of this and other similar observations of mine. One should not seek through multiple operations at intervals to improve a primarily unfavorable operative result. From this, as Riedel and many others have shown, severe and often irreparable injury ensues. Much rather shall one endeavor, upon the basis of detailed primary investigations of the pathological functions of the intestinal progress, to encompass by knowledge of end results the purposeful determination of the proper method at the first operation and never permit from the beginning the unfortunate damming back in the large intestine."

BOOK REVIEWS

A Treatise on Diseases of the Skin. For the use of advanced Students and Practitioners. By Henry W. Stelwagon, M. D., Ph. D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Seventh edition, thoroughly revised. Octavo of 1250 pages, with 334 text-illustrations, and 33 full-page colored and halftone plates. Philadelphia and London. W. B. Saunders Company, 1914. Cloth, $6.00 net; half morocco, $7.50 net.

The classification of the diseases in this work is excellent. The division of the subjects is pathological but the subjects are so grouped that one can readily follow through a differential diagnosis. The structure of the skin in detail is the introduction, followed by the physiology and then the description of the primary lesions. In giving the illustrations of the various diseases in this work, the effect is not merely to take such lesions that no one with any knowledge of skin diseases could possibly mistake. Instead of that we have the more common types, such as we are apt to see daily and not the extremes which are due to long neglect. As this tendency to take the extremes is so common, it is a pleasure to find a work which gives the diseases as we are apt to find them. It is a very desirable text-book and reference work.

Practical Therapeutics. By Daniel M. Hoyt, M. D., formerly instructor in Therapeutics, University of Pennsylvania, Fellow of the College of Physicians, Assistant Physician to the Philadelphia General Hospital. Second Edition, revised and rewritten. Octavo, p. 414. C. V. Mosby Co., St. Louis, Publishers. 1914.

In this volume the author attempts to give a "brief summary of the physiological actions of drugs, with particular emphasis upon their clinical application, and to show the importance of simple, rational prescribing based (wherever possible) on known physiological actions; and to indicate the limitations, as well as the value of drugs in the treatment of disease." The volume, on the whole, is very unsatisfactory. The arrangement is good, but the subject matter inadequate. There is not enough for the needs of the medical student or the general practitioner. It might serve for a text book for nurses, but there are much better books even for that purpose.

The most useful portions of the book are the extracts from "New and Non-official Remedies", occupying 120 pages, and the "Index of Drugs" occupying 75 pages, but it is hardly fair for an author to depend upon these for nearly half of his volume.

A Text-Book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College, Philadelphia. Eleventh Edition Thoroughly Revised. Octavo of 1335 pages, fully illustrated. Philadelphia and London. W. B. Saunders Company, 1913. Cloth, $5.50 net; half morocco, $7.00 net.

The text, which is the eleventh edition by the same author, consists of 1,298 pages of subject matter and a number of plates, cuts, charts and drawings. The subject matter has been brought right down to present-day knowledge in the diagnosis and treatment of disease in detail and with the degree of finish which characterized previous editions. Bacteriology justly occupies considerable space and indicates the ever increasing importance of this science in understanding the cause and symptoms of disease.

The sub-headings on symptomalogy diagnosis and differential diagnosis are written with the greatest possible degree of clearness. There are 56 differential diagnosis tabulations, which will prove to be of a special help to medical students and to the younger practitioners.

The space allotted to treatment is somewhat more than is found in the majority of current day text books on medicine and this feature again will be of assistance to students and to the younger practitioners.

Modern terminology is employed as adopted by standard lexicographers.

Among the more important new information appearing in the text may be mentioned McPhedran's sign of peritonitis in typhoid fever, Burke's reflex sign in typhoid fever, phlebotomy and transfusion in hemorrhage of typhoid fever, Lee's sign in acute articular rheumatism, Iron's method of diagnosis of gonorrheal arthritis, Pastia's sign of scarlet fever, Erb's syphilitic spinal paralysis, Weil's test in syphilis, vegetable days in diabetes, radium emanations in gout, salvarsan and sodium cacodylate in progressive pernicious anemia, artificial pneumothorax in hemoptysis, oxygen in sero-fibrinous pleurisy, Karell milk-cure in valvular heart diseases, Boas' method of testing motor function of stomach,

McCaskey's method of treating gastroptosis, Bastedo's test in appendicitis, chloride retention theory of renal dropsy, diseases of the parathyroid gland, stereptococcus tonsilitis, Lane's kink of the ileum, status thymicolymphaticus, diseases of the thymus gland.

Plate I shows a diffuse Variola eruption, plate II Beri-Beri, plates III and IV the Parasites of Malaria, plate V Splenomedullary Leukemia, plate VI Aneurysm of the Abdominal Aorta, plate VII a Skiagraph of the Abdominal Organs. The press work is of the same degree of excellence that is to be found in all of Saunder's publications.

The treatise meets all of the requirements of a modern day text and reference book on medicine.

ABSTRACTS

To the Statistics of Injuries of the Eye by Pieces of Iron. Elschnig, A., Prag, (Centralblatt für prakt. Augenheilkunde, 37, August-September, 1913, p. 230), reports on 68 cases, treated at his clinic within the last 6 years. Fifty-four were not infected. Only in 8 the foreign body could not be extracted, but in 22 the eye had to be removed. The cases in which the eyeball could be preserved, retained a vision which corresponded to the original injury. According to E. the importance of the penetration of a foreign body through the sclerocorneal junction into the inner ocular tunics is frequently undervalued. He saw in a series of cases in which the bacteriological examination revealed that the extracted foreign body was sterile subsequent severe iridocyclitis, sometimes lasting for weeks. Hence follows that many of the failures of magnet extraction with regard to sight are not due to the method of extraction but exclusively to the injury as such. A case is reported, from which E. surmises that in detachment of the retina after the entrance of a foreign body it seems better to wait with extraction, as the prospects are more favorable after the retina is reattached. E. concludes that today the question is not: giant magnet or Hirschberg's hand magnet, but that one succeeds only according to the case with alternating or combined application of both.

C. Zimmermann.

On the Etiological Connection of Detachment of the Retina and Injuries. Perlmann, Alfred, Iserlohn, (Zeitschrift für Augenheilkunde 31, Januar 1914, p. 41), summarizes his views as follows: 1. Perforating injuries may lead to detachment of the retina, whether the eye is predisposed to detachment or not. 2. If a detachment of the retina occurs in consequence of a new formation, the question arises whether this new formation is the consequence of an injury, which in most cases must be denied. 3. A blunt injury (concussion) is never capable of producing detachment of the retina in a healthy eye. 4. Quite a number of persons are, in consequence of ocular or general affections, contantly threatened by detachment of the retina. This occurs if the disease is sufficiently advanced, even without any external force. 5. If such a patient can plausibly prove an accident and a temporal connection between accident and detachment, the etiological connection will be affirmed in spite of considerable scientific hesitations. 6. A severe strain during work can by no means be regarded as injury of the above kind. In this case the etiological connection is to be rejected. P. then discusses the views of the imperial insurance office with regard to this question. C. Zimmermann.

Investigations on Family Syphilis in Parenchymatous Keratitis. Boas, Harold, and Roenne, Henning, (From the "Statens Serum Institute" at Copenhagen. Klinische Monatsblätter für Augenheilkunde 52, Februar 1914, p. 219), examined systematically 33 families, in some of whose children parenchymatous keratitis of hereditary syphilitic base occurred. In these families 132 births and still births had been reported. The individuals who were examined were divided into the following groups: A. Persons who had (according to anamnesis and examination) certain syphilitic manifestations before and at the time of the examination. B. Persons who were not known to have had syphilis, but who gave positive Wassermann's reaction as the only symptom. C. Persons of whom it was not known that they had symptoms of syphilis and on whom Wassermann's reaction was not made, and persons, about whom no data could be ascertained. D. Persons who neither clinically nor serologically showed signs of syphilis. E. Children, who died early, or were born dead, or still births.

Under A, were found: parents 19, children 39; under B. parents 11, children 8, under C, parents 21, children 21; under D, parents 15, children 27; under E, born dead, still births, etc., 37, altogether 66 parents and 132 children.

Group B is of greatest interest. It strikingly shows that occult syphilis occurs in a large enough percentage of parents and their offspring, that a family examination seems justified and necessary, if a case of congenital syphilis is ascertained. Although anti-syphilitic treatment of parenchymatous keratitis is not very effectual, yet there are very malignant and constantly relapsing cases of the disease in which a rational anti-syphilitic therapy seems inevitable. In addition the existing syphilis involves such a danger for the later life of the individual (tabes, paresis, optic atrophy, etc.), that a rational treatment, aside from the ocular affection, ought not to be omitted. For the same reason treatment of the parents and children, who give positive Wassermann's reaction without other symptoms of syphilis, seems necessary.

The classical rule that in syphilis of the parents at first still births occur, then children are born dead, then living but syphilitic children, and finally healthy children are born, was not marked in the cases examined. The authors reached the following conclusions: 1. Patients affected with parenchymatous keratitis often have apparently healthy brothers and sisters with positive Wassermann reaction. These must be traced, as a preventive specific treatment is considered necessary. 2. The hereditary transmission of syphilitic infection is more irregular than so far generally supposed; especially the birth of apparently healthy children is no guaranty that the following children will not be infected. C. Zimmermann.

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EDITORIALS

THE SIXTY-EIGHTH ANNUAL MEETING.

On another page will be found all the particulars of the Sixty-eighth Annual Meeting of the State Medical Society to be held at Oshkosh, October 7th to 9th.

The arrangements are complete, the program is of unusual interest and of exceptional merit, and the man who stays at home is going to miss a good time. There is no doubt about the fact that the meetings of the State Medical Society are growing more enjoyable each year. We are getting better acquainted with each other and as a natural result we are getting to like each other better.

The man who stays at home and misses the pleasure and the inspiration which these meetings bring, is missing one of the best parts of the practice of medicine.

Let us all unite to make this meeting under the presidency of Dr. Sheldon one which will be remembered for a generation.

THE WISCONSIN MEDICAL WOMEN'S ASSOCIATION.

The fifth annual meeting of the Wisconsin Medical Women's Association is to be held at Oshkosh, October 5, 6 and 7, and the program which is given in full on another page shows that the meeting will be one of unusual interest.

The program gets away from the conventional type in a manner which promises well not only for the success of this meeting but also for the future of the organization. This society is developing an individuality and an energy which will make it a potent factor in the future of medical development in Wisconsin.

THE MEETING OF THE WISCONSIN EYE, EAR, NOSE AND THROAT SPECIALISTS.

On page 167 will be found the program of the newly-launched association of Wisconsin Eye, Ear, Nose and Throat Specialists. It is a most promising beginning and the meeting is sure to be of value to all those who are interested in these special lines.

The idea of having the meeting in conjunction with that of the State Medical Society is an excellent one but the writer ventures to make the suggestion that next year it would be better to have the date of the principal meeting either before or after that on which the most important papers of the meeting of the State Medical Society are to be presented. Under the present arrangement, Thursday, October 8th, is going to be a little too full for comfort.

EXIT TOM MORRIS.

The primary election has thoroughly disposed of the candidacy of Thomas Morris of La Crosse for the United States Senatorship. Even with the active support of Senator La Follette he ran no better than a rather poor third in the race. Some of the newspapers, especially the Eastern papers, have been inclined to look upon this as a sign of the waning of the power of Senator La Follette. Not being deeply versed in politics we cannot pass upon this question but our opinion is that the poor show-

ing of Mr. Morris was due to a general recognition of his unfitness for the position.

But no one will imagine that Thomas Morris is the kind of man who will sit back and twirl his thumbs for the remainder of his days.

He may safely be counted upon to appear as a candidate for some office in the near future and it will be well for the medical profession to remember his views, his ideals, and his affiliations.

THE PRESENT STATUS OF RADIUM THERAPY.

That the emanations from radium can destroy epitheliomata has long been known. In this country Abbé of New York has been the pioneer and seven years ago could show several hundred cured cases of skin cancer. X-rays properly used can duplicate all that radium can do in this field. Recent newspaper accounts make it appear as though this were a very recent achievement of one man, but all who are at all familiar with the work know that such results have been secured for ten years past by very many men working with both X-rays and radium. The interest in the subject of radioactivity to-day centers around the therapeutic effect it may exert on deep seated malignant growths. Isolated instances of such effects from the use of X-rays and radium are not lacking, but there have been no consistently good results. Like all new things it must undergo a period of study and observation, and a technique must be developed. It is only recently that X-ray technique has been advanced to the point where now it is often possible to absolutely destroy a cutaneous epithelioma with one treatment. Similarly, the technique of the therapeutic employment of radium has only recently been developed to the point where it is recognized that extremely large doses frequently repeated actually have a distinct destructive effect upon malignant growths of accessible organs,—such as the uterus, rectum, and even esophagus. But the growth must be accessible in order to be influenced by the rays given under the technique as far as it is developed to-day. This applies equally to X-rays, radium and mesothorium, either used alone or in combination, for the effect of all of these on deep seated growths depends upon the hard or penetrating quality of the ray employed. We know to-day that whenever Roentgen, radium or mesothorium rays strike the tissue with a certain intensity, the carcinomatous new growth is destroyed. The cancer cells disintegrate with vacuolization and nuclear changes, and the connective tissue undergoes hyaline change and sclerosis. The problem consists in actually getting a sufficient quantity of the proper kind of rays into the area we desire to influence. Up to now this has not been possible except in isolated instances, although within the past two years much has been done to develop a technique which offers hope that it will ultimately be accomplished. Working with large amounts of radium or mesothorium and securing thereby an enormous quantity of deeply acting gamma rays, combined with X-rays in a quantity heretofore not used, certain German observers have in a large number of cases produced a clinical and subjective cure of apparently hopeless cases of carcinoma of the urethra and uterine cervix. It was almost always possible to completely destroy the primary growth; but in the tissues, such as glands, 5 cm. distant from the growth, no effect was obtained. It is therefore to-day an action on the primary growth alone and only if this is accessible, but not on metastatic foci, so that it is entirely too early as yet to speak of cures in these cases. There do, however, appear to have been some actually cured cases of carcinoma of the cervix, as demonstrated by Bumm in two cases that died some time after completion of their treatment, one of pneumonia and the other of thrombosis. Complete autopsies were made, and every organ was examined microscopically with German thoroughness, and nowhere was a suspicion of carcinoma found. There are at present many clinically cured cases under observation in which excised portions of the healed tissue show entire absence of carcinoma under the microscope. Time alone will tell if these are actually cured cases, or if it is a local cure only. One who witnesses the changes under treatment in these formidable cases as they progress day by day to a restoration of the cervical contour and substitution of a firm mass of scar tissue for the former malignant growth, cannot fail to be impressed with the remarkable effect of the rays. It is evident that we are in possession of an agent which actually destroys malignant tissue, and in a manner heretofore considered impossible, even though it is at present probably employed in a crude way. When the technique has been perfected and more is known of the physical properties of radioactive substances the effect will undoubtedly be enhanced

many fold, though it is difficult to conceive how any agent whatever, short of a specific chemical introduced into the blood stream, can influence metastases from the primary focus.

A few men, working under exceptionally favorable conditions and with quantities of radium and mesothorium entirely prohibitive for the physician in private practice, in combination with a very costly and highly technical treatment by X-rays, are securing remarkable results in the treatment of uterine carcinoma, which leads one to hope that a cure in these cases will be possible. But it is not demonstrated that surgery in this field has been displaced, and it is evident that, even if it be proven successful, the new treatment will be available for only a fortunate few.

NASCENT IODINE IN TUBERCULOSIS.

In the Practitioner for December, 1912, Curle of Glasgow, writing on "Observations On the Action of Iodine, and also On New Methods of Using It," remarks upon the fact that while in an iodide such as potassium iodide, we have iodine present to the extent of approximately 75 per cent., in a condition so readily soluble that it will dissolve in its own weight of water, so rapidly absorbed into the blood and so diffusible that it can be detected in the urine and secretions ten minutes after administration, clinical experience and experimental bacteriology have shown that potassium iodide is not an antiseptic, and that its iodine can only become germicidal by being set free. How best to set it free and yet avoid iodism is an important problem.

The author points out that to solve this problem it is necessary to consider the nature of iodine, the nature of potassium iodide, the behavior of the two when present, side by side, in an aqueous liquid like the blood serum, and the conditions under which iodism takes place.

"The chief property of iodine with which we are concerned is its volatility. Kept in stoppered bottles, it is a solid; exposed to the air, it becomes a vapour and disappears; placed in water at the temperature of the body, it vaporizes and disappears. Shaken up with cold water in a stoppered bottle, it slowly dissolves to the extent of 1 part in 7,000; exposed to the air, it quits the solution and becomes a vapor.

"The characteristic is postassium iodide, with which we are most concerned, is the intense affinity for each other displayed by its component elements. Heated beyond redness it volatilizes as a whole, but its iodine does not become dissociated. Such is the affinity of postassium for iodide that it can unite with three times the amount of iodine present in potassium iodide and form a tri-iodide. When brought together in water, potassium iodide and iodine liquefy, and such is the affinity between potassium and iodine that, when the potassium iodide is present in a dilute solution to the extent of equal parts or double that of the iodine, the iodine is restrained from volatilizing.

"Experiments conducted with iodine and potassium iodide in solution, at the temperature of the body, with moistened starch paper as an indicator of the volatilization of iodine, demonstrate: 'That when iodine and potassium iodide are present together, in aqueous solutions, the tendency of the iodine to rise in vapor is diminished in proportion to the amount of iodide present; and that in dilute solutions such as those formed when the usual doses of potassium iodide are diffused through the blood serum, iodine can only vaporize when there is little or no iodide present'."

The special reducing agent used in Curle's method to liberate nascent iodine from the iodide in the blood and tissues is a chlorine solution made by mixing, in a dry 24-ounce bottle, 60 grains of potassium chlorate in fine powder, and 120 minims of strong hydrochloric acid, and after stoppering and shaking until effervescence has ceased, adding cold water little by little to 24 ounces, the bottle being shaken after each addition of water. This solution is of the same strength as that used by Dr. I. Burney Yeo in the treatment of enteric fever, is not very unpleasant to the taste, and keeps well.

"In connection with the use of iodine and potassium iodide as a disinfectant, it is important to notice that if in our solutions we use too much iodide, not only will the iodine be restrained from rising in vapor, but it will also cease to part from the solution, and to unite with those organisms which we wish to destroy. It is, therefore, under these conditions not an antiseptic. Of this action of potassium iodide on iodine we have ocular demonstration when we use it to remove iodine stains from the skin, by wetting the stain and rubbing it with the iodide, when the iodine leaves the skin and enters into solution with the excess of iodide.

"We have observed that in potassium iodide we have a suitable vehicle for conveying iodine into

the blood. We have in the restrained chlorine solution a suitable reducing agent for setting free iodine from this iodide, both the iodine and chlorine are disinfectants, and the by-product of the reaction potassium chloride, which only amounts to 14 grains even when 30 grains of the iodide are decomposed, is not only innocuous, but, as shown by recent physiological research, its presence in small quantity in the blood is essential, if the heart is to maintain its kinetic energy."

As to iodism Curle states that the symptoms are identical with those produced when a patient is exposed to strong iodine in vapor and that they suggest, as Binz has pointed out, dissociation of iodine in the blood and tissues.

"We have observed that in aqueous solutions, like the blood serum, iodine rises in vapor when there is no potassium iodide present to prevent it. If we administer to a patient potassium iodide, at regular intervals of 4 hours, in such quantity that the iodine rises in vapor and causes symptoms of iodism, all the iodide must have become decomposed in rather less than that time. As vaporization of iodine ceases when more iodide is introduced into the blood than can be disintegrated in 4 hours, we have, in the advent and disappearance of iodism under the administration of iodide in increasing doses, an indicator which determines the amount of iodine which can be dissociated from iodide in a given time. As iodism is usually most intense when 3 or 4 grains are administered every 4 hours to a healthy person, and disappears when double that dose or more is given, 4 grains potassium iodide, yielding 3 grains of free iodine, is approximately the maximum amount disintegrated in 4 hours, and this amount only, no matter how large the doses of iodide administered.

"It follows then that our largest doses of potassium iodide, owing to the presence of a large excess of undecomposed iodide, have the least antiseptic action in the blood, and also that in doses under 4 grains the action of potassium iodide is almost that of free iodine introduced into the blood, whilst its action in doses over 4 grains is that of iodine held in solution by varying proportions of potassium iodide. In small doses we have the effects of iodine in vapor, indicated by stimulation of secreting structures to increased secretion, and of absorbent structures to increased absorption, hence small doses of iodides cause increased watery expectoration which diminishes when large doses are given. It is interesting in this connection to consider the medium dose, so often used, of 10 grains, for at the end of 4 hours, with 4 grains disintegrated, it yields 3 grains of iodine and 6 grains of iodide to keep it in solution, proportions identical with those in Gram's solution, and therefore antiseptic. It may, therefore, be considered the largest dose of potassium iodide which has antiseptic properties, without causing iodism."

Curle recommends giving the adult patient 30 grains of iodide with 10 or 20 grains of potassium bicarbonate in a copious draught of water after breakfast. Four hours later, on the first day of the treatment, the patient is given one ounce of the chlorine solution in lemonade after the mid-day meal, one ounce two hours later, and a third dose after a meal two hours later. If the patient can bear it, after the first day, a fourth dose of one ounce of chlorine solution can be used. These doses are repeated daily, and under them the patients do not appear to be liable to iodism. His rule is to carry disintegration as near as possible to producing iodism without actually producing it, and his experience has indicated that with doses of the size mentioned, 1 to 1½ ounces of the chlorine solution are required for every 10 grains of iodide administered.

Dr. Curle claims to have found the use of nascent iodine in this manner very effective in the treatment of tuberculosis, especially in cases of mixed infection, and Dr. Reeve writing in the Practitioner for June, 1914, reports marked success in the handling of early tuberculosis, especially in the glandular form in children.

THE SIXTY-EIGHTH ANNUAL MEETING OF THE STATE MEDICAL SOCIETY OF WISCONSIN.

OFFICIAL CALL.

The sixty-eighth Annual Meeting of the State Medical Society of Wisconsin will be held in Oshkosh Wednesday, Thursday and Friday, October 7, 8 and 9, 1914.

The House of Delegates will convene at 8 P. M., Tuesday, Oct. 6th, at the Fraternal Reserve Association Building. The Council will meet following this meeting. The Association of County Secretaries and State Officers will meet Friday noon, Oct. 9th, for the transaction of business.

CHARLES S. SHELDON, *President.*
ROCK SLEYSTER, *Secretary.*

PLACE OF MEETING.

The General Session, the House of Delegates, the Council and all exhibits will be housed in the Fraternal Reserve Association Building. This is a beautiful, commodious and modern building centrally located and will prove the most comfortable quarters we have ever had. It is but two blocks from the Athearn Hotel (Headquarters), one block from the heart of the business section, and not more than three blocks from any railroad station. The Friday noon session of the County Secretaries Association will be held in the French Room at the Athearn Hotel.

Oshkosh profession especially invite the Doctors' wives to attend this session of the State Society and promise them a pleasant visit.

INVITED GUESTS.

Dr. Victor C. Vaughan, President A. M. A., Ann Arbor, Mich.

Dr. Frank Billings, Chicago.

Dr. A. R. Colvin, St. Paul.

Mrs. Katherine L. Van Wyck, Secy. Milwaukee Associated Charities.

Dr. Alexander R. Craig, Secy. A. M. A., Chicago.

Prof. J. R. Commons, University of Wisconsin.

FRATERNAL RESERVE ASSOCIATION BUILDING.
All general sessions, meetings of the House of Delegates and the Council, and President's Reception will be held here. Register here on arrival.

REGISTRATION.

The members are requested to register as soon as possible after their arrival. The registration and information bureau will be located at the entrance of the Fraternal Reserve Building. Upon registration each member will receive an official program, badge and announcement of all details and arrangements. A general information bureau will be conducted in connection with the registration bureau.

FOR VISITING LADIES.

Suitable and enjoyable entertainment will be provided for the visiting ladies. They are requested to register at the registration bureau. The

Dr. Edward C. Rosenow, Chicago Memorial Institute for Infectious Diseases.

Hon. A. C. Umbreit, Milwaukee.

HOTELS IN OSHKOSH.

Athearn Hotel.

European plan only—Rates $1.00, $1.50 and $2.00.

Tremont Hotel.

American Plan—$2.00, $2.25 and $2.50.
European Plan—$0.75, $1.00 and $1.50.

Brunswick Hotel.

European Plan only—$0.75 and $1.00.

WASHINGTON STREET.
Looking West from place of meeting. Government Building and Old National Bank in foreground.

MENOMINEE PARK POINT.

New Revere Hotel.

American Plan only—$1.50.

The Oshkosh Hotels can easily care for any attendance but members do well to engage in advance at any meeting. The Athearn, which is headquarters, can care for 350.

Armory (one block north of the F. R. A. Bldg.). Members are promised a fine time—smokes, lunch, vaudeville, and "capers".

Thursday evening a reception in honor of President Charles S. Sheldon will be given in the ball room of the Fraternal Reserve Association Building. After the Reception, which will be held at 8:30 P. M., refreshments and dancing. The arrangement committee requests that it be informal, "no dress suits". Everybody join in honoring Wisconsin's "Grand Old Man". Bring the wives and daughters and dance.

HOTEL ATHEARN.
General Headquarters.

TRANSPORTATION.

Oshkosh may be reached via Chicago and Northwestern, Chicago, Milwaukee and St. Paul, and the Sault Ste. Marie railways. Thirty-five passenger trains leave for the north and south each day. In addition there is hourly service on the interurban trolley system for the south, north and west. These lines make Fond du Lac, Omro, Neenah, Menasha, Appleton, Kaukauna, De Pere and Green Bay. Boat lines make Omro and Winneconne.

ENTERTAINMENT AND SOCIAL MEETINGS.

Wednesday evening at six-thirty an automobile ride about Oshkosh and vicinity will be given visiting members and their families. Automobiles will be furnished by the good people of Oshkosh and will leave the Hotel Athearn at 6:30 P. M. sharp. The ride ends at eight at the Armory in time for the Smoker.

Wednesday evening the Winnebago County Medical Society tenders a complimentary smoker at the

Friday noon the Association of County Secretaries will have their annual "Ginger Tea", but it will be a luncheon this year at the Athearn's French Room.

Automobiles will be furnished on application at the information bureau to take visitors to see the various hospitals.

Announcement of alumni gatherings, special entertainment and ladies entertainment will be made at the time of the meeting.

COMMERCIAL AND SCIENTIFIC EXHIBITS.

The commercial exhibit will be up to the usual standard and affords the visiting physician an opportunity to see and inspect the latest instru-

ELK'S CLUB.
Open to Visiting Physicians.

LAKESIDE SANITARIUM.

ments, apparatus, books, therapeutic agents, etc.

The scientific exhibit will receive special attention. A large and interesting group of X-ray plates will be shown and members are requested to send or bring interesting plates and pathological specimens. The University will contribute to the exhibit. Material should be sent to Dr. H. W. Morgenroth, Oshkosh, Chairman of the committee.

EYE, EAR, NOSE AND THROAT SPECIALISTS.

The newly formed Association of Eye, Ear, Nose and Throat Specialists will hold their first annual meeting in conjunction with the State Society at Oshkosh on October eighth and ninth. An excellent program, a copy of which will be mailed with the preliminary general program, has been prepared and will be of interest to those working along this line. Clinics will be given at St. Mary's Hospital Friday afternoon.

OSHKOSH

Oshkosh, the place where the State Medical Society of Wisconsin will hold its 68th Annual Meeting on October 7-9, should be a part of every Wisconsin resident's education. Oshkosh is not only one of the large commercial centers of Wisconsin but has a deserving reputation as a center of beauty, culture and education. It is wonderfully situated on the shores of Lake Winnebago and is surrounded with smaller lakes and rivers, making it an ideal summer resort. Its system of parks, monuments, drives, etc., are unsurpassed in Wisconsin and the hospitable medics assure visiting physicians every opportunity to see its beauties either by automobile or by boat. We print a few facts about Oshkosh taken from a booster pamphlet.

County seat of Winnebago County. Population, 35,000; and within a radius of 50 miles, there reside no less than 200,000 people.

Oshkosh

Has an assessed valuation of about $21,000,000, with a bonded debt of $512,000.

Oshkosh

Has thirty-five passenger trains coming and going each way, every twenty-four hours.

Oshkosh

Is an interurban center. Cars of the latest pattern run south, north and west hourly; also an up-to-

ALEXIAN BROTHERS' HOSPITAL.

ARRANGEMENT COMMITTEES.

H. W. Morgenroth, Chairman.

EXHIBITS.

Harry Meusel. John Schneider.
Frank Brockway. F. W. A. Brown.

ENTERTAINMENT.

C. J. Combs. W. Wheeler.
F. Gregory Connell. J. Conley.

HOTEL ACCOMMODATIONS.

M. E. Corbett. B. C. Gudden.
Burton Clark. G. M. Steele.

date local electric line traversing the principal streets of the city.

Oshkosh

Manufactures the following lines: The sash, door and blind interests located here are the largest in the world. The center for hardwood veneered doors. The Diamond Match Company, the largest in the United States. Lumber and log companies, logging and tool, mill supplies, bank and office furniture, boats, marine gasoline engines of national reputation, saw mill and shingle mill machinery, furniture, mattress, couches, springs, coffins, carriages, trunks, autos, candy, bottle covers, grass matting, clothing, muslin, underwear, boiler works, boxes, brooms, heavy wagons, cigars, cigar boxes, cisterns, excelsior, kitchen cabinets, step and extension ladders, rugs, saw mills, soap, threshing machines, vinegar, machine shops, soda water, plating works, sheet and metal, lime and cement, book binderies, breweries, building material, flour mills, foundries, art glass works, grill works, frog farm, pumps, mining lamps, mine signal system, moving picture machines, stone quarries and garages.

Oshkosh

Has the finest school system in Wisconsin, where manual training and domestic science are taught. The largest Normal school in the state is located here; also the choice of four business colleges, including a telegraph school.

Oshkosh

Public buildings are the pride of its citizens, including the public library and the government building, which houses the revenue office. United States court and the postoffice, which, under its present efficient postmaster, is second to none in the United States, the annual receipts having reached the $100,000 mark.

ST. MARY'S HOSPITAL.

Oshkosh

Has four beautiful parks, that are a Mecca for her population in the summer time, where all can breathe the good, pure air and bask in the sunshine.

Oshkosh

Has three well-equipped hospitals, where all can receive the best of medical treatment and care. Nearby is located the Northern State Hospital for

the Insane, also the County House and County Asylum.

Oshkosh

Mercantile business in all lines is of large proportions. Stocks of goods are carried equal to those of the larger cities, where throngs of customers from home and afar are ever looking for the best, which is always to be found in Oshkosh.

Oshkosh

As a summer resort is unexcelled. Lake Winnebago and the Fox River, the peers of the west, are a paradise for the sportsman and those seeking pleasure. Beautiful summer homes line the entire shore of the lake and river. Hundreds of boats of all descriptions ply these waters. Lake Butte des Morts, a few miles up the Fox River, is tributary to Oshkosh, and is of easy access by water or stage.

Oshkosh

Has a yacht club and a yacht club house on Lake Winnebago which is the pride of the city. Annual regattas are held here. The Power Boat Club have their club house on Lake Butte des Morts. Much interest is taken in this sport, some boats having a speed of thirty miles an hour. Both clubs have large memberships.

The natural beauty of Oshkosh and of the surrounding territory,—the lakes and rivers offering excellent opportunities for boating, hunting and fishing—make it very desirable as a place to live in.

IMPORTANT NOTICE.

MICHIGAN ALUMNI MEETING IN HONOR OF DR. VICTOR C. VAUGHAN.

On account of the fact that Dr. Victor C. Vaughan, Dean of the Medical Department of the University of Michigan, and President of the American Medical Association, is to be one of the guests of the State Medical Society of Wisconsin at the coming meeting at Oshkosh, it has been suggested that the Alumni of the University of Michigan who may be present at the meeting should pay their respects to Dr. Vaughan in some way, and have either a smoker or a spread in his honor.

All Michigan Alumni who expect to be present at the meeting are urged to communicate immediately with Dr. L. P. Allen, 145 Main St., Oshkosh, Wis., so that definite plans may be made.

PROGRAM.

Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, October 7-9, 1914.

WEDNESDAY, OCTOBER 7.

Morning Session, 11:30 A. M.

Call to Order by the President, Charles S. Sheldon, Madison.

Invocation, Rev. E. H. Smith.

Address of Welcome, Hon. John Mulva, Mayor of Oshkosh.

Response by the Vice-President, C. A. Evans, Milwaukee.

Report of Committee of Arrangements, H. W. Morgenroth, Oshkosh.

Report of Program Committee, Edward Evans, LaCrosse.

Afternoon Session, 2 P. M.

SOCIAL MEDICINE.

1. *Annual Address of the President, Charles S. Sheldon, Madison.*

2. *Our State Boards of Medical Examiners, J. M. Beffel, Milwaukee.*

   Discussion opened by
   - J. M. Dodd, Ashland.
   - H. W. Abraham, Appleton.
   - F. T. Clark, Waupun.

3. *Medical Education—A Retrospect and a Forecast, J. Van de Erve, Milwaukee.*
   - I. Equipment needed.
   - II. The Student Body, physical examination for, preparation of, training for contemplated location, limiting number, migration.
   - III. The Teaching Force—Qualifications, relations to students, profession and public.
   - IV. The Curriculum.

   Discussion opened by
   - C. R. Bardeen, Madison.
   - J. M. Dodd, Ashland.
   - F. T. Nye, Beloit.
   - Otho Fiedler, Sheboygan.

4. *Are Physicians Square with Their Tuberculosis Patients, Hoyt E. Dearholt and Clarence M. Cheadle, Milwaukee.*

   This paper is a report of a careful judicial study of the histories of two hundred State Sanitorium patients with special reference to the

individual and sociological attitude of the attending physician to these patients. A scientific case study of physicians is here attempted along lines similar to those followed in a previous paper under the title "The relation of the physician to the public campaign against tuberculosis", presented before the State Society in 1911.

Discussion opened by
T. H. Hay, Stevens Point.
M. R. Wilkinson, Oconomowoc.
W. H. Banks, Hudson.

5. *Deductions Drawn from the Examination of 5,000 Students at the University of Wisconsin, Robert Van Valzah, Madison.*

Nature and scope of the examinations; lack of accurate clinical data at this period of life; importance of this data from a preventive standpoint. Comparison of methods of examination and classification of defects. Statistical report of individual defects with special mention of the more frequent. Interesting rarer abnormalities. Vaccination, percentage unvaccinated; reasons and remedies suggested. Conclusions.

Discussion opened by
A. W. Gray, Milwaukee.
George P. Barth, Milwaukee.
H. W. Abraham, Appleton.

6. *Social Insurance and the Medical Profession, Prof. J. R. Commons, University of Wisconsin.*

Discussion opened by
T. J. Redelings, Marinette.
W. F. Zeirath, Sheboygan.
F. P. Knauf, Kiel.

Thursday, October 8.

Morning Session, 9 A. M.

INFECTIONS.

7. *Pneumococcal Infections, H. E. Wolf, La Crosse.*

General consideration; prevalence in man and animals; usual forms in each; importance of focal infections in man other than pulmonary; variation in virulence; production of immunity in pneumococcal infections and the author's animal experiments. Production of antibodies, antitoxines, agglutinins and opsonins. Phagocytosis—resistance of highly virulent pneumococci to the same crisis; virulence of the crisis. Chemotherapy; serum-therapy; vaccino-therapy.

Discussion opened by
A. Egdahl, Menomonie.
E. Bloomer, Monticello.
L. A. Moore, Monroe.
Edward Evans, La Crosse.

8. *Infections of the Nose, Throat and Accessory Sinuses—Their Importance to the General Practitioner, Franz Pfister, Milwaukee.*

Primary or secondary; primary may remain localized or be initial local manifestations of a systemic infection; secondary infections; sources of. What appears primary oftentimes of dental origin; accurate diagnosis and treatment practicable and possible for general practitioner; must know, however, what he is dealing with.

Discussion opened by
Henry B. Hitz, Milwaukee.
E. S. Elliott, Fox Lake.
J. Kenney, Thiensville.
R. C. Pfeil, Mattoon.

9. *Cryptogenic and Allied Infections of Surgical Import, R. H. Jackson, Madison.*

Resume of infection in general—Present day man especially susceptible—Common methods of production—Illustrative cases—The term cryptogenic obsolete; a cloak of ignorance—Prevention the shibboleth of medicine and soon to be of surgery—Duty of State Society to disseminate knowledge of prevention—Conclusions.

Discussion opened by
J. S. Evans, Madison.
C. H. Bunting, Madison.
Julius Noer, Stoughton.

10. *Puerperal and Other Pelvic Infections, W. G. Darling and Daniel Hopkinson, Milwaukee.*

Subject so broad have limited paper to puerperal infections. The first part deals with the etiology, bacteriology and pathology, with special reference to the flora of the normal vagina during pregnancy. The pathologic changes involving the uterus and adnexa are considered from the standpoints both of degenerative and regenerative changes. Various etiological factors reviewed. The second part of the paper considers symptoms, diagnosis, prophylaxis and treatment. Dr. Hopkinson will read the first part and Dr. Darling the second.

Discussion opened by
W. C. F. Witte, Milwaukee.
V. A. Mason, Marshfield.
G. R. Baker, Tomahawk.
J. P. McMahon, Milwaukee.

11. *The Vaccine Treatment of Various Infections, E. C. Rosenow of the Memorial Institute for Infectious Diseases, Chicago.*

The principles involved; the importance of accurate bacteriologic diagnosis; the preparation, the limitations and the relative value of the usual autogenous and stock vaccines and allied preparations will be discussed.

12. *Annual Address in Medicine; Focal Infections and Their Relation to Systemic Diseases, Frank Billings, Chicago.*

Afternoon Session, 2 P. M.

FRACTURES.

13. *The Pathology of Fractures, Delayed Union, Non-Union, Nerve Injuries, Etc., H. F Derge, Eau Claire.*

Limitation of discussion to practical phases of the subject. Normal process of repair in long and flat bones. Factors operating to modify the normal reparative processes, resulting in various pathological results, non-union, contractures, nerve injuries, etc. Value of clear conception of forces and agents operative in healing of fractures in the every day treatment of these fractures.

Discussion opened by
F. Gregory Connell, Oshkosh.
Wilson Cunningham, Platteville.
John Cleary, Kenosha.

14. *Open Treatment of Fractures, A. Gundersen, La Crosse.*

Discussion opened by
Joseph Smith, Wausau.
J. L. Yates, Milwaukee.
W. W. Kelly, Green Bay.

15. *Fractures of the Skull, C. A. Evans, Milwaukee.*

No satisfactory classification; most skull fractures undiscovered. Least important lesion the fracture itself. Should be looked at from viewpoint of intracranial injury; so becomes a question of intracranial pressure. Cerebro-spinal fluid plays important part. As to treatment intracranial injuries may be divided into localized and unlocalized. Localized directly approached; unlocalized treatment depends on amount of intracranial pressure. Basal drainage operation of choice.

Discussion opened by
H. V. Ogden, Milwaukee.
W. E. Fairfield, Green Bay.
T. W. Tormey, Madison.

16. *General Principles Underlying the Treatment of Fractures, Charles H. Lemon, Milwaukee.*

The importance of a careful analysis of all the conditions arising as a guide to treatment. Consideration of the features incident to the line of fracture involving contiguous joints. The question of primary amputation vs. conservation in severe compound fractures. Conformation of joints as an aid to treatment. General principles involved in the treatment of simple fractures which are clinically unreducible.

Discussion opened by
W. C. F. Witte, Milwaukee.
T. W. Nuzum, Janesville.

17. *Annual Address in Surgery; Diagnosis of Diseases and Injuries of Joints, A. R. Colvin, St. Paul.*

18. *Colles' Fractures, Otho Fiedler, Sheboygan.*

Fractures into and near the wrist joint. Pathology—necessity of skiagram to determine. Diagnosis. Prognosis as to function, as to deformity, as to term of disability. Treatment, reduction should be under general anesthetic; must reduce impactions; secure exact apposition; retention apparatus; open method.

Discussion opened by
H. Reineking, Milwaukee.
E. L. Bolton, Chilton.
A. C. Radloff, Plymouth.

19. *Fractures About the Elbow Joint, Wm. E. Fairfield, Green Bay.*

The importance of recognition of the true nature of fractures in this region; making use of an intimate knowledge of the landmarks of the normal joint. Honest effort to reduce rather than hastily concluding it irreducible. Different forms and their symptoms. X-ray before and after reduction. Necessity for great caution in adopting open treatment. Avoidance of criticism of results by others.

Discussion opened by
T. J. Redelings, Marinette.
Edward Quick, Milwaukee.
Victor Marshall, Appleton.

FRIDAY, OCTOBER 9.

Morning Session, 9 A. M.

ETHICS, ECONOMICS AND ORGANIZATION.

20. *Medical Economics, W. F. Zierath, Sheboygan.*

Physicians unjust to themselves and their families. The business side of practice.

General discussion opened by
S. B. Ackley, Oconomowoc.
H. C. Werner, Fond du Lac.

21. *Medical Legislation, Hon. A. C. Umbreit, Milwaukee.*

History of medical legislation in Wisconsin. Causes of failures. Medical support contrasted with the activities of the cult and quack. A proposed new medical practice act.

General discussion opened by
J. P. McMahon, Milwaukee.
F. F. Bowman, Madison.

22. *Existing Laws and Needed Legislation in Constructive Care of the Poor and Mentally Irresponsible, Mrs. Katherine L. Van Wyck, Secy. Associated Charities, Milwaukee.*

Discussion opened by
A. W. Wilmarth, Chippewa Falls.
A. G. Sullivan, Madison.

23. *The Relations of the State University to the Medical Profession, Dean C. R. Bardeen, Madison.*

Discussion opened by
Hoyt E. Dearholt, Milwaukee.
G. E. Seaman, Milwaukee.

24. *Address—Medical Ideals, Victor C. Vaughan, President A. M. A., Ann Arbor, Michigan.*

25. *The work of the A. M. A., Alex R. Craig, Secretary, Chicago.*

Introduction—Historic perspective.

FRIDAY AFTERNOON

will be devoted to renewing acquaintances, "seeing Oshkosh," visiting city hospitals and the State Hospital for Insane, clinics and fishing or duck hunting for sportsmen.

THE FIRST ANNUAL STATE MEETING OF THE WISCONSIN EYE, EAR, NOSE AND THROAT SPECIALISTS.

Under the Auspices of the

MILWAUKEE OTO-OPHTHALMIC SOCIETY,

At the Athearn Hotel and St. Mary's Hospital, Oshkosh, Wis., October 8th and 9th, 1914.

PROGRAM.

THURSDAY, OCTOBER 8TH.

Morning Session, 9 A. M.

1. Annual Address of the President.
Dr. Henry B. Hitz, of Milwaukee

2. Report on two cases of Ophthalmic Goitre with ocular complications.
Dr. Lee M. Willard, Wausau, Wis.

3. Diagnosis and Surgical Treatment of some Laryngeal conditions by the Intra and Extra Laryngeal method with report of cases. (Demonstration of Killian's new instrument.)
Dr. Joseph C. Beck, Chicago, Ill.

4. Annular opacity of the anterior surface of the lens after traumatism.
Dr. Chas. Zimmermann, Milwaukee

5. Epithelioma of the eyelids. Report of six cases treated by Roentgen Rays.
Dr. Samuel G. Higgins, Milwaukee.

6. Modern illumination and its relation to ocular comfort.
Dr. Nelson M. Black, Milwaukee.

THURSDAY, OCTOBER 8TH.

Afternoon Session, 1:30 P. M.

7. Treatment and indications for operation in Glaucoma Simplex with demonstrations of cyclo dialysis and trephining operations.
Dr. Harry S. Gradle, Chicago, Ill.

8. A plea for the corrective and cosmetic surgery of the nose.
Dr. Franz Pfister, Milwaukee

9. A modified muscular advancement operation applicable in all cases and easy of execution.
Dr. James A. Bach, Milwaukee.

10. A case of primary carcinoma of the caruncle. Exhibition of slides.
Dr. P. H. Dernehl, Milwaukee

11. Metastatic Ophthalmia with demonstration of specimen and slides.
Dr. L. P. Allen, Oshkosh, Wis.

12. Causes of preventable blindness illustrated by fifty lantern slides.
Dr. G. I. Hogue, Milwaukee

FRIDAY, OCTOBER 9TH.

Morning Session, 8 A. M.

ST. MARY'S HOSPITAL.

The Clinical and Operative Program will be announced later.

Officers.

President.....Dr. H. B. Hitz
Vice-President.....Dr. F. Pfister
Secretary-Treasurer.....Dr. G. I. Hogue

Council.

Dr. H. B. Hitz.
Dr. F. Pfister.
Dr. G. I. Hogue.
Dr. P. H. Dernehl.
Dr. C. Zimmermann

Chairman Local Committee.

Dr. L. P. Allen.

FIFTH ANNUAL MEETING OF THE WISCONSIN MEDICAL WOMEN'S SOCIETY.

OSHKOSH, OCTOBER 5, 6 AND 7, 1914.

PROGRAM.

MONDAY, OCTOBER 5TH.

9:30 A. M. Child's Contest at 40 Jefferson Ave.

Examination of children under 5 years of age. Conducted by Dr. Carrie A. Frost, Chippewa Falls, assisted by Drs. Irene G. Tomkiewicz, Milwaukee, and Belle P. Nair, State Hospital for Insane. All day session.

TUESDAY, OCTOBER 6TH.

9:00 A. M. Business Meeting at 40 Jefferson Ave.
10:00 A. M. Prayer, Mrs. W. M. W. Jamieson.
Address of Welcome, Mayor Mulva.
Response, Dr. Irene G. Tomkiewicz.
11:00 A. M. Report of Child's Contest and Demonstration of method of examination with talk to mothers, Dr. Carrie A. Frost, Chippewa Falls.
12:30 P. M. Luncheon, at residence of Drs. Riddle and Riddle, 40 Jefferson Ave.

Afternoon Session.

2:00 P. M. President's address, The Spirit of Service, Dr. Julia Riddle, Oshkosh.
2:20 P. M. Orthostatic Albuminuria, Dr. Helen A. Binnie, Chicago, Ill.
2:50 P. M. The Causes and Treatment of Mental Deficiency, Dr. Mary Pogue, Lake Geneva, Wisconsin.
3:20 P. M. The Present Day Practice of Obstetrics, Dr. Maud Ferguson Pratt, Appleton.
3:50 P. M. The Child of Care, Dr. Adeline Riddle, Oshkosh.
4:20 P. M. Round Table, "Methods".
6:30 P. M. Boat Ride to Winneconne.
7:50 P. M. Duck Dinner.
Toast Master, Dr. Luella Axtell, Marinette.

Toasts.

"The Medical Woman Past and Present," Dr. Sarah Munro, Milwaukee.

"Good Fellowship," Dr. Gertrude Batcheller, Madison.

"Majors and Minors," Dr. Ella C. Fay, Whitewater.

"Team Work or Co-operation," Dr. Effie Lobdell, Chicago.

"Our Future," Dr. Irene G. Tomkiewicz, Milwaukee.

"The Booster," Dr. Louise Seeber, Waterloo.

WEDNESDAY, OCTOBER 7TH.

8:30 A. M. Business meeting, 40 Jefferson Ave.

Election of Officers, Etc.

9:30 A. M. Auto ride about City and Country.
10:30 A. M. Clinic, Northern Hospital, "Dementia Praecox," Dr. A. Sherman.

IRENE G. TOMKIEWICZ, *Secretary.*

NEWS ITEMS AND PERSONALS

The following physicians have returned from Europe: Drs. F. A. Kraft, A. G. Jenner and Richmiller, Milwaukee; J. M. Dodd, Ashland; Felter of Plymouth; F. G. Connell and Neil Andrews, Oshkosh, and A. M. Farrell, Two Rivers.

Dr. T. F. Thompson, Milwaukee, has been appointed chief of the health department sanitary inspection force by Health Commissioner Ruhland. The salary is $2,000 per year.

Dr. William C. Rucker, formerly health commissioner of Milwaukee, now Assistant Surgeon General of the Public Health Service, has opened headquarters at New Orleans preparatory to conducting an active campaign for the eradication of bubonic plague.

Dr. Karl K. Amundson, for the past year interne at the Milwaukee Hospital, Milwaukee, has associated himself with his father, Dr. A. C. Amundson at Stoughton.

Dr. H. A. Sifton, Milwaukee, who recently underwent an operation for appendicitis has recovered, and has left for a hunting trip to Alaska.

Dr. George E. Johnston of Appleton is a candidate for county treasurer of Outagamie County, on the Republican ticket.

Dr. J. W. Monsted, New London, suffered fractures of three ribs in an automobile accident on July 31st.

Dr. Henry A. Peters has been appointed health officer and city physician of Oconomowoc.

Dr. E. J. Couch, Glenbeulah, is candidate for clerk of courts for Sheboygan County on the Republican ticket.

The city ambulance of Racine is now decorated with a gold star within a blue circle instead of the Greek cross. The action was taken as a result of the arrest of Mayor Goodland and Charles Ryba, City Clerk, on charges of violating a national law, by permitting the city health department to use the government insignia.

The Fond du Lac County Medical Society plans medical inspection of the public schools of Fond du Lac beginning at the opening of the schools in September.

Plans for the Winnebago County Tuberculosis Sanatorium have been approved and bids advertised for.

Dr. John W. Coon, Milwaukee, formerly superintendent of the State Tuberculosis Sanitarium, Wales, has been appointed superintendent of the new Municipal Tuberculosis Hospital, Chicago.

EXAMINATION OF CANDIDATES FOR ASSISTANT SURGEON, U. S. PUBLIC HEALTH SERVICE.

Boards of commissioned medical officers will be convened to meet at the Bureau of Public Health Service, 3 B Street, SE., Washington, D. C., and at the Marine Hospitals of Boston, Mass., Stapleton, N. Y., Chicago, Ill., St. Louis, Mo., New Orleans, La., and San Francisco, Cal., on Monday, October 19, 1914, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health Service, when applications for examinations at these stations are received in the Bureau.

Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, and must furnish testimonials from two responsible persons as to their professional and moral character. Service in hospitals for the insane or experience in the detection of mental diseases will be considered and credit given in the examination. Candidates must have had one year's hospital experience or two years' professional work.

Candidates must be not less than 5 feet, 4 inches, nor more than 6 feet, 2 inches, in height.

The following is the usual order of the examinations: 1, Physical; 2, Oral; 3, Written; 4, Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate and that they will serve wherever assigned to duty.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists of examination in the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital.

The examination usually covers a period of about ten days.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Assistant surgeons receive $2,000, passed assistant surgeons $2,400, surgeons $3,000, senior surgeons $3,500, and assistant surgeon generals $4,000 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

The tenure of office is permanent.. Officers traveling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address "Surgeon General, Public Health Service, Washington, D. C."

The proceedings of the Third Annual Meeting of Alienists and Neurologists of the U. S. held under the auspices of the Chicago Medical Society, July 13-17th, 1914, will be published in one volume by the Illinois State Medical Journal. It will be in double column, the type and size of page the same as the Journal, and will comprise from four to six hundred pages. This book will contain the papers read and their discussions, together with resolutions adopted. The subjects covered are, Acquired Insanity, Epilepsy, Mental Defectives, Alcoholism, Abderhalden Test, Syphilis, etc.

The subjects of special interest are:

First: The Abderhalden Test (Especially in Dementia Praecox), which embraces the technic for the preparation of the substrates, mixing of materials in the test tubes, and the interpretation of the reaction. This will comprise one of the most complete Symposium on the Abderhalden Test, so far, printed in this country.

Second: Syphilis. The diagnosis of early Syphilis by the Dark Field Illuminator. The technic for obtaining and mounting the specimen for the Dark Field examination. The technic for staining specimens obtained from local lesions and mucous patches, and the method for preparing and staining tissues for sections, for microscopical examination.

The Wassermann Test: The technic for preparing materials, the method for mixing the same in test tubes, and interpretation of the reaction.

Third: The treatment of early and late Syphilis is up to date, and embraces the technic for mixing and the method of administering intravenously Salvarsan and Neosalvarsan, also the technic and method for Intra-Spinal administration of Neosalvarsan and Neosalvarsanized serum in Locomotor Ataxia and Paresis.

The proceedings will be published and ready for distribution by October or November, 1914. As only a limited number is left unsubscribed for, those wishing the publication will please send their subscription at once, as there will not be a second edition. The price of book is $2.00. Send subscription to the Editor of the Illinois State Medical Journal, Dr. Clyde D. Pence, 3338 Ogden Avenue, Chicago, Ill.

At the Third Annual Meeting of the Alienists and Neurologists of the U. S. held under the auspices of the Chicago Medical Society, for the purpose of discussing Mental Diseases in their various phases, July 13-17, 1914, the committee on the Prevention of Insanity, reported the following resolutions, which were unanimously adopted:

"Whereas, it is well recognized by alienists and neurologists the world over that certain major factors are the chief causes of physical conditions accompanied by mental derangement and deficency, and

"Whereas, these major causes are largely, if not wholly, controlable and eradicable, and

"Whereas, these major causes are alcoholism, habit producing drugs, venereal diseases, work in unsanitary and unhygienic surroundings, and hereditary influence including the immigration of the physical and mental unfit.

"Therefore, Be it Resolved, First: That we recommend to the proper state authorities the absolute control of the sale of alcohol until such time as actual prohibition be enacted.

Second: That the sale of all habit inducing drugs be strictly regulated in all states of the Union.

Third: That municipal or state control of venereal diseases be established, with proper treatment for in-

digent patients, to the end that the spread of syphilis and gonorrhea be prevented.

Fourth: That, proper, special hospitals for the care and treatment of alcoholism and drug addiction be established.

Fifth: That municipal, State and national inspection of labor conditions be regularly maintained and child labor abolished.

Sixth: That no known defective dangerous to himself and to others, should be permitted to have unrestricted liberty.

Seventh: That adequate teaching of the principals of heredity and sex life be initiated and fostered in the home with the view to its introduction into the curricula of schools—above the grammar grades, this instruction, to be given to the sexes separately.

Eighth: That the various states pass reasonable and universal marriage laws, that will be reciprocal, in preventing the marriage of the physical and mental unfit.

Ninth: That a Psychopathic Laboratory be connected with the Criminal Courts, Common Schools, and that Railroads, Transportation Companies and Public Service Utilities, responsible for the actual safety of the general public should have their employees regularly examined as to their physical and mental fitness.

Tenth: That, inasmuch as state, county and city public health institutions should have as their superintendents, men of highest qualifications, who may devote their best efforts to their tasks, we recommend that all such positions be subject to civil service examinations.

Eleventh: That in addition to the above, we recommend a nation-wide campaign of education conducted through the public press, university and medical schools, boards of health, state, county and city boards of education, women's clubs and other proper educational mediums upon the true significance of the development—physical, mental and moral—of the individuals and the race and finally, we recommend that a committee be appointed to promote the enactment of the above resolutions.

REMOVALS

Dr. H. E. Barnes, Pewaukee to Waukesha.

Dr. G. A. Maercklein, Gilman to Merrillan.

Dr. N. F. Crowe, Milwaukee to Walworth.

Dr. E. H. Heinrich of Denmark has removed to Mayville where he will practice in partnership with Dr. G. J. Clark.

Dr. Frank P. Marshall, Milwaukee, has associated himself in the practice of medicine with Drs. Henry and David Twohig at Fond du Lac.

DEATHS

Dr. Alfred Mercer, one of the pioneers in the medical profession in Milwaukee, died at Buffalo, N. Y., August 7th, aged 93 years. Dr. Mercer began practicing in Milwaukee in 1847, going from there to New York. He was known as a teacher and author as well as a physician. His home was Syracuse, N. Y.

Dr. Wilmot F. Miller, Milwaukee, died suddenly on August 15th, of diabetes. Dr. Miller was stricken while returning from a vacation trip on the lakes. He was born in Tomaqua, Pennsylvania. After being graduated from the University of Michigan Medical Department in 1887, he came to Milwaukee, and resided there up to the time of his death. He was a member Milwaukee County and State Medical Societies.

Dr. E. W. Clark died on July 18th at Los Angeles, Cal., aged 74 years. Dr. Clark was a well known and popular physician at Neenah in the 70's. He was born in Herkimer County, New York, February 19, 1840. In 1852 he came with his parents to Sheboygan Falls, where he received his early education, and afterwards entered Lawrence University at Appleton. In September, 1861, he enlisted in the 1st Wisconsin Calvary, and was mustered out in October, 1864. He returned to Appleton after the war, took his degree from Hahnemann Medical College, Chicago, in 1868, when he returned to Appleton, and became a partner of the late Dr. Page. In 1870 he came to Neenah, where he remained until his removal to California. In June, 1866, he was married to Miss Helen M. Waits. He was mayor of Neenah in 1887.

Dr. James Cox, Jefferson, died on August 19th at Milwaukee, following an operation for appendicitis. Dr. Cox was born in the town of Dover, near Burlington, Wisconsin, in 1876. After completing his high school education at Burlington he studied at the Whitewater Normal School, and then entered Northwestern University Medical School, Chicago, graduating in 1904. He began the practice of medicine at Clyman, where he remained two years, and then removed to Jefferson. He was a member of the Jefferson County and the State Medical Societies.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1913-1914

CHARLES S. SHELDON, Madison, President
C. A. EVANS, Milwaukee, 1st Vice President
C. J. COMBS, Oshkosh, 2nd Vice President
EDWARD KINNE, Elkhorn, 3rd Vice President
ROCK SLEYSTER, Waupun, Secretary
S. S. HALL, Ripon, Treasurer

Councilors

TERM EXPIRES 1917
1st Dist., M. R. Wilkinson - Oconomowoc
2nd Dist., G. Windesheim - - Kenosha

TERM EXPIRES 1919
5th Dist., W. F. Zierath - Sheboygan
6th Dist., H. W. Abraham, - Appleton

TERM EXPIRES 1915
9th Dist., T. H. Hay - Stevens Point
10th Dist., R. U. Cairns - River Falls

TERM EXPIRES 1918
3rd Dist., F. T. Nye - - - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1914
7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1916
11th Dist., J. M. Dodd - - Ashland
12th Dist., H. E. Dearholt - Milwaukee

Delegates to American Medical Association

L. ROCK SLEYSTER, Waupun
J. J. McGOVERN, Milwaukee
J. M. DODD, Ashland

Alternates

W. T. MURPHY, Waukesha
F. T. NYE, Beloit
J. F. PEMBER, Janesville

Committee on Public Policy and Legislation

J. P McMAHON, Milwaukee, Chairman
A. G. SULLIVAN, Madison
F. F. BOWMAN, Madison

Committee on Medical Defense

G. E. SEAMAN, Milwaukee, Chairman
S. S. HALL, Ripon
A. J. PATEK, Milwaukee

Committee on Prevention of Tuberculosis

M. P. RAVENEL, Madison
G. E. SEAMAN, Milwaukee
C. A. HARPER, Madison
J. M. BEFFEL, Milwaukee
T. H. HAY, Stevens Point

Program Committee

W. F. ZIERATH: Sheboygan
EDWARD EVANS, La Crosse
C. S. SHELDON, Madison

Committee on Arrangements

H. W. MORGENROTH, Oshkosh, Chairman

NEXT ANNUAL SESSION, OSHKOSH, OCT. 7-9, 1914.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	George Harrison, Ashland
Barron-Polk-Washburn-Sawyer-Burnett	B. N. Webster, Rice Lake	E. R. Hering, Shell Lake.
Brown-Kewaunee	W. Weber Kelly, Green Bay	F. L. Crikelair, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knauf, Kiel.
Chippewa	C. A. Hayes, Chippewa Falls	A. L. Beier, Chippewa Falls.
Clark	H. H. Christofferson, Colby	E. L. Bradbury, Neillsville.
Columbia	O. O. Force, Pardeeville	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	T. W. Tormey, Madison	F. S. Meade, Madison.
Dodge	R. E. Bachhuber, Mayville	E. S. Elliott, Fox Lake.
Door	H. F. Eames, Egg Harbor	T. C. Proctor, Sturgeon Bay.
Douglas	C. M. Gould, Superior	W. H. Schnell, Superior.
Dunn-Pepin	L. A. Larson, Colfax	G. A. Baker, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	D. J. Twohig, Fond du Lac	H. C. Werner, Fond du Lac.
Grant	S. W. Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	W. J. Pearce, Dodgeville	H. D. Ludden, Mineral Point.
Jefferson	C. S. Carmichael, Helenville	W. A. Engsberg, Lake Mills.
Juneau	W. B. Parke, Camp Douglas	A. T. Gregory, Elroy.
Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	H. O. Shockley, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	Joseph F. Smith, Wausau	R. W. Jones, Wausau.
Marinette-Florence	T. J. Redelings, Marinette	R. R. Heim, Marinette.
Milwaukee-Ozaukee	C. H. Lemon, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	L. G. Sheurich, Tomah	Spencer D. Beebe, Sparta.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
Outagamie	J. R. Scott, Appleton	F. P. Dohearty, Appleton.
Pierce	D. C. Munger, Ellsworth	R. U. Cairns, River Falls.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	E. A. Richy, Park Falls	G. H. McClure, Westboro.
Racine	Emil Tompach, Racine	Susan Jones, Racine.
Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center.
Rock	J. W. Keithley, Beloit	F. E. Sutherland, Janesville.
Rusk	H. C. Johnson, Glen Flora	Julian C. Baker, Hawkins.
Sauk	F. D. Hulburt, Reedsburg	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham	H. J. Calkins, Shawano.
Sheboygan	J. A. Junek, Sheboygan	Edmund Knauf, Sheboygan
St. Croix	Philip McKeon, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	C. L. Story, Whitehall	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	F. J. Fucik, Williams Bay	Edward Kinne, Elkhorn.
Washington	W. J. Wehle, West Bend	S. J. Driessel, Barton.
Waukesha	W. S. Wing, Waukesha	S. B. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh
Wood	J. A. Mason, Marshfield	J. B. Vedder, Marshfield.

CHIPPEWA COUNTY

JULY MEETING.

Chippewa County Medical Society held its July Meeting at Bloomer, Dr. H. M. Trankle being host. After a supper at the Hotel Anderson a meeting was held at Dr. Trankle's office. Those who attended were Drs. Ellenson, Hayes, Beier, McRae, Smith, McCune, Hurd, Nussle, Jr., and Wilkowski of Chippewa Falls, and Cunningham, Erdman and Starr of Stanley.

AUGUST MEETING.

Chippewa County Medical Society held its regular meeting at Stanley on August 11, 1914, twenty-four members being present, representing Chippewa Falls, Stanley, Boyd, Thorpe, Cadott, Bloomer, New Auburn, Hannibal and Gilman. A business meeting was held at which there were several interesting talks, after which a supper was served at the Presbyterian Church.

RACINE COUNTY

The regular meeting of the Racine County Medical Society was held at the Lakeside Hotel, Brown's Lake, Racine County, June 25th, 1914, at 2 o'clock in the afternoon.

Dr. W. E. Schroeder of Chicago addressed the society on the subject of "Clinical and Experimental Observations on Hydronephrosis". Dr. Schroeder and his assistant, Dr. Ovitz, exhibited some very fine specimens as well as some splendid drawings of the pathological kidney. Dr. G. Windesheim, councillor for the 2nd district, was present, also Dr. Gephardt of Kenosha. The attendance was good.

SUSAN JONES, *Secretary.*

FIRST DISTRICT MEDICAL SOCIETY.

The 1st Councillor District Medical Society, comprising the counties of Waukesha, Washington, Dodge and Jefferson, met at Hartland on August 5th. About fifty being present. There was an address by Dr. Bayard Holmes of Chicago. A lunch was served at the close of the meeting. Officers for the ensuing year were elected as follows: president, H. Wehle, West Bend, vice president, H. B. Sears, Beaver Dam; secretary-treasurer, S. B. Ackley, Oconomowoc. The next meeting will be held at Juneau.

NINTH COUNCILOR DISTRICT.

The July meeting of the 9th Councillor District Medical Society was held at the Pavilion, Grand Rapids, July 25th. The meeting was called to order by the president, Dr. W. F. Cowan, Stevens Point. The following program was carried out: "Some Points in the Diagnosis and Treatment of Acute Infectious Diseases" by Dr. Geo. D. Whiteside, Plover. "Intussusception in Infants" by Dr. Karl Doege, Marshfield. "The Diagnosis and Treatment of Infections of the Hand" by Dr. R. W. Jones, Wausau.

Each number was followed by a general discussion. Following the business meeting a banquet was served. There was an attendance of fifty-five. The next meeting will be held at Wausau in October.

BOOK REVIEWS

MEDICAL AND SURGICAL REPORTS OF THE EPISCOPAL HOSPITAL, Philadelphia, Vol. II, Wm. J. Dornan, Publisher, 1914.

Volume 2 of the Medical and Surgical Reports of the Episcopal Hospital, Philadelphia, continues the promise made by the first volume which was issued last year. The work of this great hospital is presented in statistical form and following this is a series of over forty papers by various members of the staff on a large variety of interesting subjects. Among the papers and reports the following may be mentioned as being of unusual value:

Comparative Studies of Laboratory Methods in Typhoid Fever by C. Y. White and Berta Whaland. The Treatment of Burns by J. V. Klauder, Interlobar Empyema by F. W. Sinkler, Superficial Gummata by Warren Walker, Simultaneous Fracture of Both Patellae, with Report of Two Cases and a Review of the Literature by C. R. Steinke, Remote Effects of Extirpation of the Gasserian Ganglion by S. H. Brown.

Aside from the value of these reports as additions to the stock of available medical knowledge their reflex value to the institution from which they emanate, through the stimulation which they afford to the members of the hospital staff, is such that we may look forward with continued interest to the appearance of future volumes.

ABSTRACTS

ON THE FAILURE OF MAGNET EXTRACTION IN POSITIVE INDICATIONS BY THE SIDEROSCOPE. Dalmer, Max. (From the Eyeclinic of Prof. A. Vossius in the University of Giessen. Zeitschrift für Augenheilkunde, 29, June, 1913, p. 552.) This may be due to the fact that 1. a piece of iron lies outside of the eyeball in the orbit or skin of the forehead or cheek. 2. A piece of iron is fixed tight in the globe, in its walls, ciliary body, or exudations. 3. The magnetic properties of the foreign body are too small for its size.

D. reports 3 cases of perforating injuries with the seat of the foreign body (iron ore) in the anterior chamber, lens and vitreous. In all the sideroscope registered positively, whereas the attempts of extraction with the magnet (giant and hand magnets) were futile. The weight of the piece was 10, 6 and 120 mgr. In two the pieces were removed with forceps and spoon, in the third enucleation was performed. Later the removed pieces were again tested with the sideroscope and magnet. The sideroscope deviated considerably, but the

large magnet attracted them only for a distance of less than one cm. and it required minimal force to detach them from it.

Since D. found in ophthalmological literature no statements as to the behavior of iron ores to the sideroscope and large magnet he examined the practically important iron ore with regard to this. Then he made experiments with pig's eyes and living rabbits into which several kinds of iron ore were introduced and the reaction of the sideroscope and the large magnet tested. The strongest reaction gave magnetic iron ore and iron glance, being attracted at a distance of from 3 to 2 cm., while the others were attracted after being approached to from one-half to one cm. Iron silica showed no attraction at all.

C. ZIMMERMANN.

THE PROGNOSIS OF GONORRHOIC OPHTHALMIA. Fehr, Oscar, (From the Rudolf Virchow Hospital at Berlin, Centralblatt für prakt. Aug., 38, June, 1914, p. 161), reports on 45 cases of blennorrhoea in adults, from April, 1907, to March, 1914, affecting 53 eyes and 2 anophthalmic orbits, probably infected by the protheses. It was unilateral in 35, Bilateral in 10 cases. In 48 eyes gonococci were found, in 23 cases there was simultaneous genital gonorrhoea. In 31 eyes the cornea was free on admission, and remained free in 25, in 22 it was affected, in 6 destroyed, on admission. In 9 out of these 22 cases a perfect cure was obtained with V from ½ to 1, in 5 vision was useful in spite of corneal opacities, in 5 poor, but may be improved by iridectomy, 1 case terminated with phthisis, and 2 came to enucleation, i. e., 71.7% perfect recovery, 11.3% with useful vision, 17% with poor vision, or blindness. The other, healthy, eye was always preserved by a celluloid shield.

The treatment consisted in strict confinement to bed, iced applications as long as the cornea was free, irrigations of permanganate of potash every hour, day and night, daily applications of 1% nitrate of silver, atropin and lenicet salves for the protection of the cornea, scarifications in intense tough chemosis, if necessary in cauterizations of the corneal ulcers and Kuhnt's conjunctival plastics.

C. ZIMMERMANN.

ON RELAPSES OF IRITIS. Terlinck, H., (From the eye clinic of Prof. Gallemaerts in the University of Brussels. Zeitschrift für Aug. 31, Jui, 1914, p. 500), reports 3 cases of syphilis in which iritis developed after injection of salvarsan and salicylate of mercury. Especially the first case was very interesting in which intramuscular injections of salvarsan were followed in succession by optic neuritis, typical iritis, intraocular hemorrhage, and papillitis, in the same eye, which yielded to specific treatment. The iritis occurred a few days after injection while the neurorelapses have an incubation of from 1½ to 4 months. According to Desneux and Dujardin the neurorelapses start from the meninges and are meningo-relapses. The focus of spirochaetae escapes destruction by the medicament and proliferates, but it requires a certain time, until it creates inflammations in the nerves, which produce the striking symptoms. The treponemas remaining in the anterior chamber elicit symptoms of iritis which become at once active. We may find an explanation of the relapses in the meninges and eyes if we consider the similarity between secretion of the cerebrospinal fluid and the aqueous. In the normal state there is a barrier to the entrance of defensive substances, furnished by the organism or introduced for therapeutic purposes. This impediment is removed by inflammations or evacuation of the aqueous by puncture. The presence of the barrier explains the continuance of the foci of treponemas in the spaces surrounded by these fluids.

C. ZIMMERMANN.

SOME CASES OF HYSTERICAL VISUAL DEFECTS. Rönne, Henning, Copenhagen, (Klin. Mon. für Aug. 52 March-April, 1914, p. 372), shows on 4 cases that the functional defect may be very polymorphous, although the concentric contraction occurs in the great majority of cases. R. thinks that there is really no typical form of hysterical visual field, and that the apparently typical is only due to the fact that hysteric persons react similarly to the same suggestion in the examination. One must be prepared for almost any form of visual field in hysteria, but the correct diagnosis will not be difficult, because the hysterical visual fields imitate, as R.'s cases show, the types occurring in organic diseases, but without constancy as there is a limit, how far the patient may follow a suggestion, which lies in the actions not in words of the examiner. The direct control of the correctness of the result of examination is very easy by changing the distance of examination, while the visual angle of the object remains unaltered. In all examinations of the visual field it is necessary to think of a functional cause of the defect found and eventually one must exclude it.

C. ZIMMERMANN.

INFLUENCE OF DRYNESS OF THE ATMOSPHERE ON THE GENESIS OF SPRING CATARRH. Bartels, R., Lima, Peru, (Klin. Mon. für Aug. 52. March-April, 1914, p. 482), found spring catarrh extraordinarily rare at Lima, which lies 100 meters above sea level and has an extremely moist climate, but very frequent in Arequipa, 2325 meters above sea level, with very dry climate. He therefore ascribes the spring catarrh in Arequipa to this fundamental difference in the moisture of the atmosphere. This perhaps explains the good results of Bayer in spring catarrh by covering the eye air tight with glass, so that under the dressing the developing moisture can not evaporate. The rare occurrence of spring catarrh in the sea climate of Holland may be another instance for this explanation. Also the peculiarity that the patients in Arequipa showed intense proliferations only in the area of the palpebral fissure speaks for the influence of the atmosphere. B. advised his patients to go to the sea coast for some time.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

ANNUAL ADDRESS OF THE PRESIDENT OF THE STATE MEDICAL SOCIETY OF WISCONSIN.*

BY C. S. SHELDON, M. D.,
MADISON.

In accordance with the custom which has been religiously observed ever since this Society was founded, it becomes my duty at this time, to present to you "The President's Annual Address." And, first, permit me again to thank you for the great honor you have conferred on me by my election as President of the State Medical Society of Wisconsin. I assure you that I thoroughly appreciate the high character and the dignity of this position, as well as the kindly feelings which prompted your action. It is the most valuable gift within your power to bestow, as it is the acme of my professional success, and the greatest honor of my life.

As I review, however, the record of the seventy odd years of our existence, with the long list of able and earnest men who have presided over your deliberations, each with a message of wisdom and inspiration, there comes to me a keen sense of my own limitations, and a fear that I may fail to sustain the high standards which have been so consistently maintained in the past. Even so, I cherish the hope that I may, at any rate, truthfully claim equal loyalty and devotion to this Society and my chosen profession.

The State Medical Society of Wisconsin has for many years occupied so much of my thought and attention, and has been so much a part of my life, that, in what I shall have to say to you today, it seems natural and perhaps appropriate that it should occupy a prominent place. Our Society and our profession are matters which should lie very close to us all, and they are, at all times, worthy of our most serious consideration. They are in our keeping. For their character, their standards, the estimate in which they are held by the public, and their progress along lines which worthily represent the great profession to which we all belong, we are all personally responsible. Ours is a high calling! None higher! and this responsibility should not sit lightly upon any one of us. The whole body is made up of the separate units, and upon the character and ideals of the individual members depends the character of the profession as a whole. If, as a Society, or as individuals, we fail to live up to the lofty standards which the medical profession affords, and to which it invites us, the measure of condemnation not only concerns us, but the whole medical profession suffers with us. On the other hand, it lies within our power to help as well as to harm. Every physician may do something to add dignity and honor to our chosen calling, and none of us are excused for the lack of exceptional ability or brilliant achievement.

Historically speaking, our State Medical Society was incorporated in 1841, 73 years ago, and the law providing for the organization of medical societies was passed by the Territorial Legislature of that year. It authorized the county and state societies to examine all students and other applicants desiring to practice medicine in Wisconsin, and to grant diplomas. The various medical societies in the State continued to exercise this function till the appointment of the State Board of Medical Examiners in 1899. The examination, however, was simply for the admission into a medical society, and there was no qualification whatever for the practice of medicine in general. The act of the Legislature authorized Bushrod B. Cary and eleven associates to meet at the Capitol in Madison, the 2nd Monday in January, 1842 (which, by the way, was *my* birthday, as well), to organize the medical society of the Territory of Wisconsin. There is every reason to believe that the meeting which was authorized by this act, as well as others that followed, were duly held and recorded, but there are no records which were preserved of any meetings till January 12, 1847, when the Annual

*Read at the Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 7, 1914.

Meeting was held in the Capitol at Madison, with Dr. M. C. Darling of Fond du Lac, as President. The Constitution of the Society provided that only two permanent members could be elected each year, and that each county society could send one delegate for every five members of the Society; these delegates to have all the privileges of membership during the time for which they were elected. Accordingly, with but few county societies, and with these restrictions, the attendance at these meetings was small; e. g. at the Annual Meeting in Milwaukee, Jan. 20, 1850, there were but nine present, and at what was called a Mass Medical Convention, called at Madison the following January, there were but eight; while at the Annual Meeting at Janesville, Jan. 15, 1853, there were only three, less than a quorum, and the meeting adjourned.

At the January Meeting in 1854, the Constitution of the Society was amended so as to admit an unlimited number of members, and, as a consequence, subsequent meetings were more largely attended.

There does not seem to have been much scientific work done during these early years, though the Annual Address by the retiring President was observed quite faithfully from the first. From 1861 to 1867, during the Civil War and the years immediately following, the Society held no meetings. On July 23, 1867, a special meeting was called at Janesville for a reorganization of the Society. But nine of the old members were present, none of whom are now living. I might call their roll lest they be forgotten: J. B. Dousman, Harmon Van Dusen, J. J. Brown, John Favill, John Mitchell, W. H. Borden, H. A. Youmans, Henry P. Strong and L. J. Barrows. Five of these at some time were Presidents of the Society. Twenty-nine subsequently joined at this meeting, including in their number, Dr. J. T. Reeve of Appleton, who, in 1870 was elected Secretary of the Society, and filled that position with eminent ability for twenty years. Of those who joined the Society during the first years after the reorganization, but few now remain with us. So far as I can learn there are still living of the '67 new members, Drs. Philip Fox of Madison, B. C. Brett of Green Bay and Solon Marks of Milwaukee. Of those joining in '68, Dr. L. G. Armstrong of Boscobel, and in '69, Dr. John Binnie of Poynette. From 1867, the membership and attendance at the Annual Meetings rapidly increased, while a consistent scientific program was always maintained. During the twelve years from '67 to '79, I find no record of the membership of the Society, but it was probably from 150 to 200, since the attendance at the Annual Meetings, as recorded by the Secretary, ranged from 75 to 100. The membership in '79 was 204; in '86, 239; in '90, the year of my election as Secretary, 303; in '95, 408; in '98, 542, and in 1902, when the new plan was adopted, 630. It then doubled at once. In 1903, it was 1,311; in '07, 1493; in '10, 1606, and last year,—1913,—it was 1,752.

As I have said, the new plan of organization was adopted in 1902. It was thorough and comprehensive, involving a new departure for all medical societies, County, State and National, including a complete reorganization of the A. M. A. The reasons which led to this radical change were numerous and imperative. The county society system had, in most States, proven thoroughly unsatisfactory and unreliable; e. g., in Wisconsin it had been impossible to maintain over a dozen county medical societies in spite of the most strenuous effort. The organic relations existing between the county and state societies, and those between the State Society and the A. M. A. were of the loosest character, making unity of action, in any direction, or for any object, practically out of the question. Organically, the medical profession was a machine, disjointed, without guidance and incapable of effective action, through lack of organization. There were many things to be accomplished which were vitally important, and which concerned the public welfare fully as much as that of the medical profession. Medical Education, Medical Legislation, Sanitation, Preventive Medicine, a readjustment of the relations of the medical profession to the community, and of physicians to one another, the Sectarian Problem, and many other objects perhaps equally important, called for wise and efficent action on our part. The object aimed at was to endeavor to correct these defects, and make it possible for us, by united action, to secure reforms which had been long neglected, and which were urgently demanded. It is now ten years since the change was made, and the wisdom of the movement has been abundantly vindicated by the results.

To be sure, not all has been accomplished, as yet, that was hoped for in the beginning, but the principal essentials of the plan have made good. The machine has been reconstructed. The organization is reasonably complete, with a large majority of the counties throughout the country having genuine medical societies, doing increasingly good work,

which is a gain of vast importance. It means more and better scientific work, better relations between the different members, and a capacity at least, for united action by the organized profession. That we have not as yet learned to use this machine more effectively, is because we have not had it long enough. It is merely a matter of time before County, State and Nation, with common interests, and seeking the same ends, will be able to make a practical and successful use of the means at their command. While for actual accomplishment, the A. M. A. should be given most credit, the State organizations are learning to coöperate, and we may confidently expect more rapid progress in the future. The most notable achievement is along the lines of Medical Education. In 1906, the era of commercialized and proprietary medical schools, many of them literally diploma mills, had reached its acme. There were in the United States 162 medical colleges, as many as there were in the rest of the whole civilized world. In a majority of these schools, the requirements both for admission and graduation, were merely nominal. There was apparently no authority, no let or hindrance, which could prevent this absurd and ruinous multiplication to go on indefinitely. In these eight years, since the reorganization, a great change has been effected. Mainly through the efforts of the A. M. A., the number of schools has been reduced to 101, a loss, or rather a gain of 61, with an immense increase in efficiency of those which remain. In 1904, the number of medical students in the United States was 28,142. June 30, 1914, it was 16,502, a decrease of 11,640, or over 41%. In 1904, the number of graduates in medicine was 5,747. Last year it was 3,594, a decrease of 2,153, or over 37%. The meaning of all this is that, hereafter, we are to have fewer medical colleges, and better ones, fewer doctors, but better ones. No one in their senses can not believe that this change brings greater good to the community than it does to the medical profession, yet, both are alike benefitted.

A natural accompaniment of this thinning out of the schools has been the general adoption of higher requirements for admission for those which remain. In 1904, only four medical schools required any preliminary education in advance of the usual high school course, and a great majority did not insist upon even that amount. There are now thirty-four medical schools which require for admission two or more years in a College of Arts, in addition to a high school course, while fifty more schools require one year of college work, leaving but seventeen schools which have lower standards. That these schools will be forced to come onto the same basis in the near future, is inevitable. Each year, it is becoming more difficult for schools of the lower standards to maintain their existence, and they find it necessary either to surrender their charter or to merge with another school. What is of greater moment, this policy has been frankly accepted by the schools and the medical profession as the proper course to be pursued.

Aside from the efforts of the Council on Medical Education of the A. M. A., the most important factor in the movement has been the action of the State Boards of Medical Examiners in various States. Twenty State Boards have now adopted preliminary requirements in advance of a four years high school course, seven of which require two years of work in a college of Liberal Arts, and the others one year. As bearing on the situation in Wisconsin, four of these States are directly west of us, viz.: Iowa, Minnesota and the two Dakotas, while Michigan and Indiana are on the east, and Illinois on the south. From this it will be seen that Wisconsin is the only State in this part of the northwest which has only the high school course requirement. We can hardly afford to permanently retain this isolated position unless we are willing to become the dumping ground of the whole northwest for the graduates of schools of inferior standards. We have now but two medical schools in the State, and both have adopted the two year college requirement. In justice to their graduates, if for no other and better reasons, we should require a standard at least approaching theirs for those coming here from other institutions. Manifestly, the next most natural and legitimate step for us to take, then, is to endeavor to secure such legislation as will authorize the State Board of Examiners to insist upon a one or two years college basis for those coming before the Board. This is bound to come soon, and I can think of nothing which would more tend to raise the standard of Medical Education in Wisconsin. I cannot conceive of any formidable opposition to this plan. It is in the interest of the whole medical profession, irrespective of any sect or school. It is certainly in the interest of the general public, which needs the very best doctors it can get. I am assured it would have the hearty support of every member of the Board of Examiners and they would gladly carry out its provisions. An energetic campaign should be in-

augurated at once, and our plans should be fully matured before the coming meeting of the State Legislature.

SOME TENDENCIES OF MODERN SURGICAL PRACTICE.

Concerning other matters connected with the general profession, I wish to say a word as to some of the Tendencies of Modern Surgical Practice. In the practice of medicine, we have seen the reaction which has taken place from the over-medication of the early part of the last century. For a time this reaction went to the opposite extreme of therapeutic nihilism, and the element of treatment received but scant attention by medical authorities. Are we not likely to have a somewhat similar experience as regards surgical practice? We need not accept at full falue, the popular clamor in the magazines, and elsewhere concerning unnecessary operations and unwise operating. It is largely ignorant or prejudiced, but we must admit that it has, for its justification, a basis of truth. Anesthesia, asepsis and animal experimentation have so enormously broadened the field and possibilities of surgical operations, and have made them so comparatively safe as regards their immediate outcome, that we see in almost every community of any considerable size, the most difficult major operations undertaken by men whose training and experience are anything but adequate for such a task. It is not difficult to understand why this is so. The hero of the average medical student is the brilliant operator, and his highest ambition is to follow in his footsteps. The fascination and glory of immediate accomplishment, the tangible results, and, especially, the large and disproportionate fees, as compared with medical practice, offer a temptation too strong to be resisted. We see numerous small community hospitals, chiefly surgical, all over the country, and the local practitioner engages in surgery, whether he has been fitted for it or not, to protect and enlarge his general practice. Formerly major operations were done only in case of accidents, or to meet emergencies, and generally by men of recognized surgical ability and experience. Now, with changed conditions, we have gone to the other extreme, and we see men, with very limited surgical experience, boldly operating for all sorts of conditions, and invading every precinct, however holy. Because the wound heals kindly is no sign that sound judgment was exercised in deciding that the operation should be done. Long ago, Sir Patrick Cullen observed that "chloroform has done lots of harm, since it enabled every fool to become a surgeon." The observation is still more apropos since the discovery of asepsis.

It is estimated that surgical operations have doubled in frequency during the last fifteen or twenty years, and the end is not yet! With the swinging of the pendulum, it is entirely possible that a reaction may take place as regards many of the surgical operations now so freely undertaken. This will be no new experience, since, if we look back forty years, we see many operations, now almost abandoned, which were then considered sound and beneficial, and which were as popular, both in and out of the profession, as appendicitis is at present. This was especially true of the female pelvis, which was exploited so freely for all sorts of conditions, and often on slight provocation. It may be admitted that most of the operations now approved are entirely proper when undertaken for sufficient cause, and as the result of sound judgment and sufficient experience, but we should recognize the fact that there are definite limitations as to their applicability and usefulness, and that they should be done only by men whose training and experience enable them to decide wisely as to their desirability, and to meet the complications which are liable to occur. It may be reasonably urged, that, if major operations of a serious character can be done only by men of large experience, how can the young man, who has never done them, get the necessary experience, since every one must do any particular operation for the first time? This is true, but, whether young or old, he should be a man who has had an adequate hospital apprenticeship, and be able to meet successfully some test or other which will demonstrate his fitness to engage in surgery.

As I am informed, one of the principal objects in the formation of the College of American Surgeons is to draw a line of demarcation of this sort, —to standardize the practice of surgery. Whether the effort will be successful or not, time only can tell. Without doubt too much emphasis has been placed upon the purely mechanical side of surgery. Mechanical skill is necessary, but it is only a single qualification, and it may be worse than useless unless predicated on a sound judgment, and a thorough knowledge of the natural history of disease and of surgical pathology.

While I am on this subject, a word as to the matter of surgical fees. With the lessened labor and responsibility which the modern hospital

affords the surgeon, I believe surgical fees are much larger than they should be for people of moderate means, and that includes a great majority of cases. There is no question but that the great disparity which exists as compared with the fees of ordinary practice is the principal cause which has led up to the disgraceful practice of fee-splitting, and constitutes the most potent temptation for the impecunious young doctor to engage in surgery, without regard to his previous training or his fitness for such an undertaking. If the conduct of a case of confinement, from its inception till the woman is safely on her feet again, is worth only from $25 to $50, surely a simple appendectomy is worth no more. How great a reduction should be made I do not undertake to say, but I think a material lowering of surgical fees would still leave the surgeon adequate compensation, while it would doubtless lessen the tendency to commercialism, so often, and sometimes so justly, charged against the medical profession.

SURGICAL COMMISSIONS.

During the last few years the pernicious practice of Surgical Commissions, or so-called fee-splitting, had, by slow and insidious approaches, gained such a foothold in various parts of the country, and was so seriously injuring the good name and standing of the medical profession, that it seemed necessary to make a thorough investigation of the subject, and to adopt some means or other to abate the evil. The A. M. A., through its Judicial Council, instituted a wide-spread enquiry as to the prevalence of the practice, and, I am sorry to say, Wisconsin was found to be among the chief of the offenders. It is unnecessary, at this time, to speak at length of the demoralizing and injurious effects of this practice upon all the parties concerned. It can have no possible defense, and every element of the transaction is thoroughly repugnant to the moral and professional sense of all right-minded physicians. It does not possess a single redeeming feature. It is the most disgraceful kind of commercialism, since it not only fleeces the innocent and confiding victim out of his hard-earned money, but shamelessly puts him up to the highest bidder, regardless of the treatment he is to receive. It is a question of honor, of morals, of manhood, and it is all so clear that any difference of opinion in regard to it does not seem possible. Yet it was disheartening to find that the system had its defenders, even among reputable men, and had become so firmly rooted in some parts of the State, that the constituted medical authorities hesitated to boldly attack the evil. Moreover, there *were,* and *are,* some complications and border lines which greatly increased the difficulties of the situation. But the question had reached such an acute stage that some prompt and effective action seemed imperative. If, as it seemed, the medical profession of the State was unequal to the task, it was necessary to look elsewhere for a remedy. Under these circumstances, it was thought wisest to invoke the aid of the State Legislature. Backed by a committee appointed by the Dane County Medical Society, a law was framed branding the practice as criminal, and imposing penalties so severe that they are likely to deter all who do not propose deliberately to violate the laws of the State. This law was passed by the last legislature, and the practice is now not only condemned by the overwhelming opinion of the medical profession, but it is also declared illegal and criminal by legal enactment. Whether this law will prove to be a final solution of the question still rests with the medical profession. From the best information I can obtain, I believe much good has been accomplished, but, as I have said, to secure positive and permanent results, it is absolutely necessary that the profession, in its organized capacity, should actively coöperate in the practical enforcement of the law.

As a result of the investigation by the Judicial Council of the A. M. A., the following resolution was recommended and unanimously adopted by the House of Delegates:

"Resolved, That any member found guilty of secret fee-splitting, or of giving or receiving commissions, shall cease to be a member of the A. M. A." I would strongly recommend, not only that this resolution be reaffirmed by our House of Delegates, and by every county society, but that it shall be made to be *effective,* to *mean* something, as well. This can only be accomplished by the active and persistent efforts of the *units* of our organization, *the county societies.* The Board of Censors in each society should be composed of men who have at heart the enforcement of the law, and it is our bounden duty to promptly report to the Board any member who is even suspected of violating the law, that the case may be investigated, and justice done to all the parties concerned.

CONTRACT PRACTICE.

The question of so-called Contract Practice is much more involved and complicated, and must be treated in a different manner. This belongs to the domain of economics, rather than of morals. Most physicians believed it to be an evil, and that it constitutes a grave menace to the best interests of the medical profession. Most think that, under present conditions, it often works an injury to all the parties concerned,—the Contract Doctor, his patients, and the other members of the profession. The overworked and underpaid Contract Doctor is liable to fall into loose methods of diagnosis, if not of treatment, and, as a consequence, the patients are apt to receive poor service. Moreover, they are not permitted to exercise any choice in the selection of a physician, a privilege of great value, and one which most of them would be willing to pay for. With free dispensaries in the cities, and Contract Practice for the various lodges and factories, a large field for legitimate practice is occupied by a few to the exclusion of the general profession. When we consider how greatly the physician's cost of living has increased of late, and how his resources have been cut off in so many directions, this aspect of the situation is certainly worthy of serious consideration. If these evils are admitted, the very practical question which we have to meet and answer is, how may they be eliminated, and how shall the profession deal wisely with the question? The time is past when we need only to condemn and ostracize. This solution of the problem is not only ineffectual, but it is illogical, and often unjust. As I have intimated, the whole matter resolves itself into a question of economics, and we might as well squarely accept this view of the case at once. With fully fifty per cent. of the male population of the United States receiving an annual income of but $500, and twenty per cent. only $200, some form of health insurance for poor people has become an economic necessity. There is no difference in principle for the poor man to pay a dollar a month, or a year, to insure himself or the members of his family against sickness or accident, and for his employer to pay $50 or $100 to an Insurance or Accident Company for the same service. To make matters worse, the man with the smallest income usually has the largest family to support. The poor man deserves just as good medical service as his employer, but the ratio of necessary expenses to his income makes it impossible for him to meet the ordinary medical charges in case of serious accident or sickness. He must either go without a doctor, or contract a debt which he can not possibly pay. We must admit that the contract system gives him medical service he is able to pay for, and thus retain his self respect. This is so important a consideration that it seems the part of wisdom to accept the principle, and endeavor to eliminate the evils which are now a part of it. There is no time to go into details, but to carry out such a plan would involve a frank understanding and a cordial coöperation between the profession and the other parties concerned. This may seem a difficult problem to solve, but if we are to make progress, the profession must meet and attack such problems with intelligence and resolution. One question to determine is, with what income is this form of health-insurance an economic necessity, and when does it become an economic luxury. It is equally important to establish a rate of compensation for medical service which shall be just to the profession, and at the same time shall not be oppressive to those who come within the scope of the arrangement.

As regards contracts with business corporations, as railroads, mines, and some factories, they have become an economic necessity, and, practically, the most important question is, whether the physician receives proper remuneration for his services.

As to Lodges, Fraternal Societies, etc., there should be an income limit, a free choice of physicians among those willing to serve in that capacity, and such medical compensation as a majority of the local physicians should decide. With this arrangement, each county society would solve the problem according to local conditions, but the profession would be in control. It is probable that a majority of the physicians would be willing to serve, and there is good reason to believe that such a plan, conceived in the right spirit, would be welcomed by the members of these bodies. This is substantially the conclusion reached by the Judicial Council of the A. M. A. after an investigation of the subject, and is embraced in the following resolution which was unanimously adopted by the House of Delegates:

"Resolved, That the House of Delegates of the A. M. A. recommends to each constituent body that it endeavor, through the action of its various county societies, to reform the various abuses of lodge practice in their separate communities, in order that the lodges may give an adequate service to

their members, and an honorable remuneration to the medical men."

MEDICAL SECTARIANISM.

Medical Sectarianism and its proper management has been one of our stumbling blocks of the past. We have learned wisdom from experience. From time immemorial medical delusions and impositions of one sort or another have sprung up, had their day, and have disappeared. Very likely our experience in the future will be the same. The human mind seems to be peculiarly susceptible to such influences, and this tendency is confined exclusively to no particular age or nation. Without doubt, some of these have come into existence because the regular profession has failed to meet the needs of the situation. Homeopathy was, in a sense, a protest against the over-medication and neglect of hygiene and dietetic measures a century ago; Eclecticism, (the "root and yarb" doctors,) of the failure to recognize sufficiently in our pharmacopeia the indigenous remedies. So it is possible that Osteopathy and Christian Science seek to cultivate fields which we have neglected or failed to properly emphasize. We have learned that *time* is the best test of all these movements in the domain of medicine. If there is good in any of them, or any sound reason for their existence and survival, they will go on in spite of us. If we are wise, we will promptly recognize the grain of truth which is in all of them, and act accordingly. In fact, our opposition in the past, instead of destroying these systems, has rather tended to foster their growth. Our present method of treatment is far more rational and satisfactory. All of us have not yet cast off the old standards and prejudices, but we are now substantially agreed that adequate training, ability, and character, are really the important qualifications which entitle the applicant to recognition as a member of the profession. In this year of our Lord, there is no more excuse or reason for the existence of medical sects or schools, than there is for schools of chemistry or geology. Disease is the same everywhere. The province of the true physician is to prevent it if possible, or to endeavor to limit its effects by any and all means within his power, and from any source whatever. The spirit of modern medicine is so liberal and tolerant, that no one, with proper training and character, need go outside its ranks on account of any particular therapeutic belief or practice. For this very good reason, Medical Sectarianism is fast disappearing and the next generation will, very likely, see the last of it. Even now it is largely of a commercial character, and still exists because there still remains a certain popular demand for it. But the almost religious fervor which formerly characterized its propaganda, has entirely passed away. In 1900, 14 years ago, there were 1909 Homeopathic medical students in the U. S., in 1914, but 794; in 1900, there were 413 graduates, 1914 only 154. Of Eclectics, there were 1014 medical students in 1904, and only 270 in 1913. Of graduates, there were 221 in 1890, and 70 in 1914. The relative loss of the Eclectics is greater and they will disappear first. Of Physio-Medics and nondescripts there are now none.

THE PROFESSION AND THE PUBLIC.

If I am not mistaken, an impression, or belief, is quite prevalent among us that the medical profession does not receive the full confidence and endorsement of the general public,—that our claim upon its faith and loyalty is punctuated by many misgivings and criticisms in various directions. We are apt to complain of the readiness with which people, who ought to know better, become the easy prey of quacks and charlatans of every degree, and of the ready ear they turn to Christian Science—falsely so-called—and every new pathy which comes along with extravagant pretensions, and boasting wonderful cures. When we go before the Legislature for aid in raising the standard of Medical Education, and for the protection of the public from impositions of one sort and another, we are often accused of coming with selfish and mercenary motives, so that, I remember on one occasion, a member of the Council remarked that we would be more likely to be sucessful in our efforts if our part in the matter could be covered up completely. It it be true that this distrust of our profession is at all general in character, it behooves us to find out as speedily as possible where the difficulty lies, and for how much of it we are responsible. Essentially our profession is the most altruistic and beneficent in existence. If we have lowered our standards, and are not living up to the high ideals we profess, our first duty is to use every effort to recover the lost ground, and remove, so far as lies in our power, any just ground for public criticism.

I am not willing to admit that these strictures are always just. We know that our judges are often woefully wide of the facts, and are lacking in fairness, as well. Yet, it must be frankly acknowl-

edged that we are largely at fault for this state of the public mind. We have all heard of the "Odium Theologicum". I fear that there is, in many quarters, an "Odium Medicum" which is no less in evidence. In place of the fraternal and united spirit which should characterize a great brotherhood, consecrated to the highest possible service, how often do we see our ranks rent asunder by discord and strife,—fighting each other, when we should be standing shoulder to shoulder, fighting the enemy! In such a case, the public takes us at our own valuation of each other, and the profession suffers accordingly. We should remember that an attempt to discredit a reputable fellow practitioner is, in effect, an injury to the whole medical profession. Professional harmony or coöperation is not only right in principle, but it is, far and away, our very best policy. This is true *everywhere,* but it is especially applicable in country places, where the two or three physicians occupying the territory could be of immense mutual assistance in many ways, if they might only cordially work together instead of engaging in a senseless and hostile competition. This union of forces may not always be feasible, but it can be effected in a great majority of cases.

COMMERCIALISM.

Some of the magazines assert that the medical profession is in danger of forgetting the high mission which it is supposed to carry to a suffering world, and is becoming, to a large degree, *Commercialized.* Whether we care more for the pecuniary rewards of our services than the members of other professions do, or more than our fathers did, may be a question. The personal equation counts for much, and the ideals of the individual physician will largely determine the emphasis he puts on mere money-making, or something a great deal higher and better.

All will agree, that, as we have to live and support our families by what we earn, we should be paid fairly, and probably liberally. The question is, what is the prevailing, dominant spirit of the profession in such matters, especially among younger men? Is the opinion general that we are justified in "putting on all the traffic will bear"? Are there very many who regard the fee as the most important item in the whole transaction? The alarming prevalence of the practice of fee-splitting gives food for serious thought, while the fees of the surgeons and the specialists often excite the envy, if not the admiration of the general practitioner.

It is true we cannot afford to make our profession wholly idealistic and altruistic. (This is a practical world, and we have to make a living, if possible.) But we can much less afford to make of it a mere trade, the main object of which is simply to make as much money as possible. I do not mean to intimate that these lower ideals are held by the profession as a whole, but here is a danger and a temptation against which we can not be on our guard too carefully. This is a materialistic age, when money counts for much, and when much of it is needed to "keep the wolf from the door". The financial situation seems often absolutely impelling, and the temptation is almost irresistible to forget everything else in supplying present needs. I need not enlarge upon the baleful effects of this tendency, both on the individual and the profession. We can not serve God and Mammon at the same time, and when Mammon holds the stage, all the better ideals go by the board. If this financial greediness shall manifest itself very generally, whether in the shape of fee-splitting, commissions, excessive on unreasonable charges, unnecessary operations, or what not, we need not be surprised if the general public takes due notice and records its judgment. I have laid stress upon this matter because I believe that the extreme and disproportionate emphasis which is so often placed upon the purely financial aspects of medical practice is fundamentally responsible for most of the criticism to which we are subjected. How this tendency can be corrected, with human nature unchanged, is hard to say. Our rapidly advancing educational standards and requirements ought to help in time, and they probably will. Meanwhile, a vigorous crusade in favor of higher professional ideals should be inaugurated all along the line; a campaign of *education,* in our medical schools, in our medical societies, and by our own personal influence and conduct.

SOCIETY INTERESTS—STATE AND COUNTY.

As regards our own society affairs, State and County, it seems hardly necessary to exhaust your patience by repeating the exhortations I have so long and so often inflicted upon you; but there are certain conditions which are not wholly satisfactory, and which seem to call for especial emphasis. And first, I wish to make a plea for higher standards of qualification for membership in the county

societies. The gospel preached by Bro. McCormack in the campaign of reorganization was one of fraternal love and good fellowship. His text, first and last, was: "Get together! Gather all into the fold! And, if some have wandered into by-and-forbidden paths, get them back again, where you can have a hold on them, and so be better able to *make* them behave." There is force in this argument, and it is applicable to a certain degree; but I think we have carried the doctrine beyond proper limits, and have not sufficiently discriminated as to the radical difference which exists between members of the profession whose vicious practices involve moral character, and those who are guilty only of ethical irregularities. It is unnecessary to say, that those in the first class should never have been admitted into our county societies, or, if already members, they should be gotten rid of, in some way or other, as speedily as possible. A large membership is wholly commendable, and is fully worth all the efforts expended in securing it, but, after all, numbers alone count for little, and quality is of far greater importance than quantity. It is altogether probable that, in many of our county societies, especially the larger ones, there are to be found some who are generally reputed, both by the profession and the interested public, to be entirely approachable in the matter of criminal abortion. It may be very difficult to formally convict such members and bring them to justice, for it is hard to secure satisfactory legal evidence in such cases, but we cannot afford to allow such men to retain their membership, and, other means lacking, their names should be dropped from the rolls. The payment of their dues should be refused, and the Board of Censors should plainly tell them the reason for such action. I believe the situation demands frank and radical treatment. If the grounds are well taken in each case, there is little danger of an appeal to the Council of the State Society, which is their privilege.

The persistent fee-splitter belongs in the same category, and, after due warning, should be treated in the same manner. We badly need just such a house cleaning, and we would be all the stronger by reason of such action. With this experience in the past, we cannot be too careful in the future as to the kind of men whose character we virtually endorse by receiving them into our body. Wise men often make mistakes, but they try not to make the same mistake more than once.

CRIMINAL ABORTION.

A word more on the subject of Criminal Abortion. Here the physician has a peculiar burden of responsibility from which he cannot escape if he would. The nature of our duties, and the intimate relations we sustain to all phases of the question, afford us a knowledge and a power for good which no other members of the community possess. The economic and social conditions which are largely responsible for the practice, we cannot change. They are some of the penalties inflicted by our modern life and civilization. The high cost of living, and the multitudinous demands upon the time and interest of the modern woman, have made child-bearing so burdensome and so unwelcome, that I fear it is becoming almost a lost art. Not only do we see quite generally the use of every possible expedient for the prevention of conception, but, this failing, how often do we see women, in every station of life, who do not hesitate to go to any length in order to interrupt by violence this most natural and sacred function of their existence! This evil is so wide-spread that it has become a grave menace to the State so far as future race conditions are concerned. In families of native stock, it is rare now-a-days to find more than two or three children, while alas! in very many, there are none at all. Stringent laws have been enacted against this crime, carrying with them severe penalties, but, notwithstanding, the awful sacrifice goes merrily on in every community, and under our very eyes. From our own experience, we know that multitudes of women regard it as a matter of comparatively slight importance, and as readily ask to be relieved of their burden, as they might ask for a dose of quinine. Knowing these things to be true, we should ask ourselves if we have measured up to our responsibility. Have we taken our share of the burden, and have we done what the community believes we ought to do in lessening this terrible evil. This is the era of Preventive Medicine, and where can this principle find wider scope, or be productive of better results than in the protection of the very sources of life and humanity? Like other crimes against the well-being of society, it will not be possible to entirely abolish infanticide, but much can be done, and the physician has it in his power to become a most important factor in its suppression. The serious and abhorrent character of the act should be strongly impressed upon the minds of those who ask our assistance. They should be made to realize not only that it is a

mortal sin, and a monstrous crime—a form of murder—but that it is also fraught with the most disastrous consequences to their life and health. Their attitude toward the subject is often the result of thoughtlessness and ignorance, rather than a lack of moral sense, and a serious presentation of the matter in its true colors will often reconcile them to their condition, and, in the end, you will earn their heartfelt gratitude.

It is humiliating to realize that all the members of our profession do not regard the subject in this light. In place of using their whole influence in opposition to this crime, they become the willing agents in abetting it. Some of them are in our own ranks, some have been driven out, and some voluntarily remain outside that they may be more free to ply their nefarious traffic. These men, or, worse yet, women!—are generally known in their true character, which many of them do not even try to conceal. Yet we know how rarely their work is, in any way, interfered with, or interrupted. The public and the medical profession appear to regard it, if not with indifference, at least as a necessary evil. It goes without saying that, from any rational standpoint, this is an intolerable situation, and one which sadly needs some remedy. The public, with good reason, looks to the medical profession to take the initiative, and we cannot afford to shirk the responsibility. The legal authorities must be furnished with reliable evidence before they are willing to take action, and it is for us, who especially have the means of securing the necessary information, to do our full duty in bringing these enemies of society to a deserved punishment. But we should not stop here. A campaign of agitation and education should be carried on by the medical profession, till a public and professional sentiment has been established which will not tolerate this crime, in any place, or in any degree, but will visit the perpetrator with the full force of its condemnation.

As to the organization and administration of our County and State Societies I think no radical changes are called for. As I have already intimated, the reorganization, effected nine years ago, has already abundantly proven its vast superiority over anything we had before, and it has, assuredly, come to stay. The same may be said of our plan of Medical Defense. The system is now pretty well understood by the members of the Society, and is almost unanimously accepted as the very best method of protecting the general practitioner against black-mailing malpractice suits, for a majority of them are of that character. Even the doubling of the assessment has met with no marked protest.

For several years, the question of a division of the Society into two or more sections, to meet separately at the Annual Meeting, has been agitated to some extent. Hitherto, it has not seemed for the best interests of the meeting to take this step. With the increasing membership, however, perhaps a change of policy may be desirable. At any rate, it is a matter of sufficient moment to warrant its consideration by the House of Delegates. I have no definite plan to propose, and even now I am in doubt whether the disadvantages may not more than offset the benefits we would derive from such a change. This would be a matter of more vital importance if it were not true that most of our scientific work *should* be done in the county societies, and *there* is where the emphasis should be placed. If each one of our 53 County Societies could only be made, as it might be, the center,—the rallying-ground,—for genuine professional study and scientific progress; if, during the year, we would only improve the opportunities offered us and make such use of the county societies as we might, this Annual Meeting would rather be a sort of medical harvest, a gathering in of the fruits of the year's labors, a coming together to recount the successes of the county societies, and to plan for still greater triumphs. And to this supreme end, we must still bend all our energies. As we have so often said, so we must not forget, that the county societies constitute the fundamental units of our whole medical society system, by reason of which our State and National Societies have their existence. In a final analysis, therefore, it is evident that we must all stand or fall according to the work and character of these county societies. Like most things worth striving for, success can only result from much wise planning and persistent effort. Higher professional ideals, and a more unselfish devotion to the medical profession as a whole, will furnish the most important necessary conditions upon which to build, and I hope we are making some progress in that direction. Withal, we must adopt suitable means for securing these ends. It would be well if we might cultivate more assiduously what I may call "The Medical Society Spirit". I need not define it. It means an abiding faith in the medical society as an institution, in its uses and its usefulness, an unswerving loyalty to

its plans and purposes, and a willingness to spend time and effort in its upbuilding and its maintenance.

If this is the spirit which should animate the whole body, what words are adequate to describe the attitude and necessary qualifications of the County Secretary? Do not fear! I shall not attempt a description now! I have exploited this all-important functionary so often, and have magnified his office to such dimensions, that I can afford to spare you at this time. But, were it my latest breath, I would still adjure you to hold him and his high office in such esteem that you will regard his selection as the very most important transaction of our County Society during the whole year, to be entered upon most carefully, if not prayerfully—free, absolutely from all factional or political influence, and with an eye single to the especial qualifications which the candidate should possess. As time goes on, I believe the supply of county secretaries selected in this spirit is constantly increasing, and may their shadow never grow less!

And when, providentially, it is your happy lot to have possessed yourselves of this good secretary, for Heaven's sake, hang on to him? Make full use of all your blandishments. Do not permit the sordid matter of the collection of dues to cloud his happiness for a moment! When he canvasses the Society for papers and discussions for the year's program, be sure to meet him more than half way. Make him think you are conferring a great favor on him by making his office permanent, and double his salary as often as necessary!

And, seriously, is there any good reason why we should not pay our county secretaries a regular salary for their invaluable services? I can think of none. They earn it, assuredly, and if so, we should not be niggardly nor parsimonious in the matter, but should cheerfully give them their dues.

While the remuneration would not be large in most of the societies, it would still be a recognition of service rendered, and I think it would also tend to produce a greater sense of responsibility and more effective work on the part of the official. I would suggest as a minimum compensation, fifty cents for each active member, the only limit to the salary being the appreciation and generosity of the membership. If this plan will strengthen the most vital part of our machinery, it is well worth while to consider it. If the State Society has more than merely an advisory power in the premises, I would suggest action by the House of Delegates, or possibly an amendment to the By-Laws of the State Society.

I think another wise use of money concerns our National Society. We are permitted as you know to send three delegates to the body which meets annually to legislate for the medical profession of the whole country. All will agree that we should send to this important meeting as strong and able men as possible, and, what I wish particularly to insist upon, I believe we should also pay their necessary expenses in attending the meeting. This seems no more than fair, and I am sure it would be one of the most effective means of securing the right kind of delegates. To be sure, all this means the expenditure of more money, and possibly an increase in the annual dues, but, really, we need only consider whether or not it is a *wise* expenditure. As a matter of fact, our dues are much smaller than those of most of the orders or clubs to which many of us belong, and which are of far less importance to us than our chosen profession. Why should we split pennies, and gravely deliberate over an added annual expense of a dollar or two, in such a cause as this, when we would not hestitate a moment if it concerned our pleasures or our daily habits? What we need, I think, is a better sense of proportion! Even if a more liberal policy and increased dues should result in a slightly diminished membership, I am sure there are enough who value their profession at its true worth to furnish the necessary funds.

Because I have made some strictures, and have called attention to some of the practices against which we should be on our guard, do not imagine that I have any grave fears or misgivings as to the future of the medical profession, here or elsewhere. The very fact that we are alive to these defects, and are adopting means to correct them within our own ranks, affords the most promising feature of the situation.

The patient has been ill, but with no organic affection. Competent advice has been sought, a correct diagnosis made, and appropriate treatment instituted. The patient has responded admirably, and, with a strong and sound natural constitution, is steadily and rapidly improving.

No, as a profession, our prospects were never brighter. I entered the Buffalo General Hospital as assistant resident physician in 1865, nearly 50

years ago, and have been in close touch with the profession ever since. When I think of the progress we have made during this period, and in so many directions, I can hardly credit my senses. The statement that we have achieved in 50 years as much as in the preceding 50 centuries is, after all, not so very extravagant. Anesthesia, the Germ Theory,—bringing Aseptic Surgery and Midwifery, — Animal Experimentation, Preventive Medicine in most of its phases; the Modern Laboratory and Laboratory Methods in Diagnosis and Treatment; the Roentgen Ray; Diphtheria Antitoxin and Serum Therapy, are only *some* of the notable advances which have been made since my medical graduation.

We all realize how profoundly this remarkable record of progress has affected the practice of medicine. It has given us almost a new profession, especially as regards the means it has placed in our hands for increased efficiency and opportunities for service. The field of action has been immensely broadened, while our knowledge of disease and its proper management has made vast strides. We are rapidly emerging from the mists and swamps of empiricism into the clearer atmosphere and onto the solid ground of scientific accuracy, both in diagnosis and treatment. We are certainly justified in claiming that no other profession or calling is more genuinely progressive in its tendency, or has actually shown such progress as ours. Moreover, the personnel of the profession is all the time growing better. Each year shows increasing intelligence and more careful training in the recruits who come to close up our ranks and to take up the work which we lay down. In every essential, therefore, for the successful prosecution of our work, we were never so well equipped, while there is every indication that our future progress will be just as marked.

With this splendid record of scientific progress, the moral and ethical standards of the profession must keep equal pace. In spite of the shortcomings I have referred to, I believe the outlook is most encouraging. We are not *entirely* selfish as some profess to believe. In the field of Preventive Medicine the members of the medical profession have been the leaders and the inspiration, and in no other calling do we see its members so persistently and so successfully pursuing a course directly opposed to their material interests. In practical charity for unpaid service, our benefactions far exceed in amount those of all the benevolent organizations, public or private. The lofty ideals of the medical profession do not exist in vain! Purity of life, uprightness of character, honesty of purpose, and unselfish service are rightly demanded of all who have taken the Esculapian Oath. That all have not accepted these ideals as their rule of conduct need not discourage us. We find unworthiness in every calling. The main body is marching in the right direction, in spite of the deserters and the traitors for whose misconduct we are often so unjustly blamed.

The physician of the future, with his added knowledge and opportunities, will more and more accept the new responsibilities which they inevitably carry with them. He will bring to his daily work a mind whose underlying motive is service and helpfulness rather than mere material gain. With his fellow practitioners he will cultivate a broad and liberal spirit, with less of jealousy and factional strife. In his own community and with the general public, he will fit himself to be a guide and a teacher in all that pertains to right living, the maintenance of health, and the prevention of disease.

He will jealously guard and carefully cherish the human interests,—the personal relations,—which have given the family physician so warm a place in so many hearts. He will actively interest himself in securing wise legislation for the promotion of the public health, for better hygiene and sanitation, and will bring a trained mind and a broad comprehension to assist in solving the complex and difficult problems which confront society. So, like Moses of old, from Mount Pisgah we look over into the promised land and see, in spirit, the glory that awaits us!

My Brethren,—Let us rejoice that it is permitted us, one and all, to have a share in this happy consummation, and to do our part in realizing the splendid ideals upon which rests our beloved profession. Our cause is just, and the prize is worth fighting for. With one mind, and with unwavering courage, let us resolve to quit ourselves as faithful soldiers, so that when the roll is called, and the record is made up, the State Medical Society of Wisconsin shall not be found wanting.

This is my hope and faith.

THE MODERN TREATMENT OF SYPHILIS.*

BY O. H. FOERSTER, M. D., AND C. A. BAER, M. D., MILWAUKEE.

As a result of the enormous fund of new information gathered during the past ten years regarding syphilis, we have been obliged to almost completely revise our former conception of the nature and pathology of this disease. The past year especially has provided us with knowledge of fundamental importance in regard to syphilis of the central nervous system, and in consequence we are obtaining an entirely new view of the manifold operations of this disease in the human body and are beginning to adequately recognize its protean manifestations and their sinister character.

Syphilis is now known to be a chronic spirillosis with rapid dissemination of the spirochetae pallida throughout all the tissues of the body, including very early involvement of the central nervous system. It is evident, therefore, that the cutaneous manifestations to which so much importance has been attached in early syphilis, are of minor consequence when compared with this synchronous invasion of highly vital structures by the spirochetae. It is at this time—early in the disease—that the foundation is laid for the changes which later manifest themselves as grave disorders of the vascular system, of various internal organs, and of the central nervous system. Until recently the changes during the early weeks of syphilis have been regarded as of chiefly dermatologic interest, and the most significant feature of this period, that is, the invasion of the more important structures by spirochetae, has been overlooked, because it progresses without the production of clinical symptoms.

Wechselmann is authority for the statement that as early as in the pre-roseolar period, when only the chancre is present, it is possible for the brain to be seriously affected. He also cites Omeltschenko's case in which three weeks after infection periarteritis was present in the terminal arteries of the cerebral cortex, with thickening of the walls of the smallest vessels in the pia mater (Behandlung der Syphilis, Bd. 2, p. 34, 42). Wechselmann and others also have observed optic neuritis and retrobulbar neuritis during the primary stage of syphilis, and he stated that during the secondary stage involvement of the optic nerve occurs in 5-20% of the cases (ibid., p. 52). Wechselmann says that in the syphilitic infection of the large lymph cisterns surrounding the brain and considerable portions of the cranial nerves, lies the controlling point in the entire pathology of syphilis of the brain. "In these lacunar systems the most severe pathological processes develop, for here all lymph vessels flow together, and the spirochetae can advance unimpeded to surround the nervous organs and the vessels; everywhere they stimulate the production of the rapidly developing syphilitic tissues, from the soft infiltration to the hard or cheesy gumma. In this manner they produce the protean picture of cerebral syphilis, as well as paresis and tabes, which, according to their serologic and lumbar puncture findings are to be regarded as genuinely syphilitic diseases. The most significant symptom of these processes is therefore the altered composition of the spinal fluid."

It was only after systematic examinations were made of the cerbrospinal fluid obtained by lumbar puncture in various periods of syphilis, that the actual frequency of involvement of the central nervous system was recognized. The important changes in the fluid that are considered as abnormal consist of an increase in the leucocyte cell count over ten to the cubic millimeter, positive Wassermann reaction, and the presence of globulin (Nonne reaction). While some observers claim that in recent syphilis the meninges are invariable infected and that the cerebrospinal fluid is therefore always abnormal (Gennerich, Wechselmann), others are not of this opinion and find fewer abnormal fluids (Engman, Buhman). In late syphilis, that is, within two years after infection, Gennerich has found changes in the spinal fluid in 80% of the cases examined, while Engman reports abnormal conditions in 34%.

From a consideration of the above it is evident that the entire future of the individual affected with syphilis is vitally connected with the fact that infection of the central nervous system occurs early in the disease. His fate depends upon whether or not the cerebrospinal lymph spaces are completely sterilized by treatment during the first year of the disease. The most favorable time for any treatment is found only in the early period, when the syphilitic proliferation has not or has only slightly encroached upon the nervous tissue. The attempt to secure such complete sterilization

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forms the basis for the rational treatment of syphilis to-day.

That our former methods of treatment signally failed in this direction is sufficiently attested by the large number of individuals afflicted with tabes, paresis, and other syphilitic affections of the central nervous system, who had received treatment formerly regarded as adequate to relieve them of or to at least control the disease.

When an actual spirillicide—salvarsan—was added to our therapeutic resources it became possible to more effectively combat the disease. Although the hope that complete sterilization would be secured by one dose of the remedy was not realized in human syphilis, it has been found that the combination of salvarsan with mercury and iodid most effectively controls the disease and probably is often curative.

At present the intravenous injection of salvarsan is universally employed although there is reason to believe that the intramuscular injection as at first used is superior in its immediate and later effects. The severe pain and the extensive necrosis of tissue attending the intramuscular method caused it to be abandoned for the less safe intravenous method with its transient effect requiring frequent repetition of the dose. Impressed by the difference in the results obtained by the depot (intramuscular) and intravenous methods, Wechselmann is at present developing a method of painless deposition of neosalvarsan, without necrosis of the tissues, in the hope of equalling the good early intramuscular results.

Those who from their large experience are in the best position to judge, now advise frequent repetitions of salvarsan given intravenously, but are not yet in accord with respect to the size of the individual dose, the interval that should elapse between injections, and the best way in which to use mercury and iodid as adjuvants of salvarsan. It may be stated here that neosalvarsan, after prolonged trial by competent observers, is being rapidly replaced by the old salvarsan, which is less toxic owing to its greater stability, and produces better results. On the ground of greater safety it is advisable that the individual full dose of 0.6 gram salvarsan be given only after the patient's susceptibility to the drug has been tested by preliminary doses of 0.1 and 0.15 g., and after several intermediate doses of from 0.35 to 0.4 g. have been well tolerated. Fordyce (New York), Wechselmann, Tomasczewski (Berlin), and Neisser (Breslau) whose combined experience has been very large, are advocates of individual doses of moderate size (0.3 to 0.5 g.), while Gennerich (Kiel) and Gibbard (London) employ 0.6 g. as the routine dose. In this connection it is well to consider that almost all fatalities have occurred when larger doses than 0.3 g. were given.

The length of time that is allowed to elapse between injections is of importance and should vary between 7 and 10 days as a rule, dependent upon the dosage. Neisser (Syphilis and Salvarsan, p. 22, 34) states emphatically that 10 days should be the shortest interval between the larger doses given toward the conclusion of a course of treatment. His total dose given during any one course of treatment in an otherwise healthy, strong man averages 2.5 to 3.0 g., in women 2.0 g., although in late specific changes in the nervous system Neisser employs a total of as high as 5.0 to 6.0 g.

Practically all plans of treatment—to which, however, Wechselmann is a noteworthy exception—include the employment of mercury, preferably by intramuscular injection, during the interval between the injections of salvarsan. The insoluble salts of mercury (calomel, salicylate, thymolaceticum) are to be preferred because of their intense action as contrasted with the less active soluble salts of weak concentration. Inasmuch as salvarsan theoretically possesses the power to liberate spirochetae through its provocatory action on latent foci, it is well to heed the advice of Pinkus (Beiheft zur Med. Klinik, Heft 4, 1913) and not give salvarsan without a supplementary course of mercury, in order to prevent possible neuro-recurrences.

The question of proper dosage and proper interval between injections is important from the standpoint of the possible cumulative action of salvarsan, but of equal importance in this connection is diminished excretion. Where this is suspected or perhaps determinable, especial caution must be observed in respect to the individual dose, the total number of injections and the intervals between them. The functions of the kidneys, liver and intestines are to be carefully tested before salvarsan is introduced in anywise large and increasing amounts. As directly contraindicating any intensive treatment by salvarsan and mercury we must include degenerative processes of the liver, alcoholism, renal disease, advanced arteriosclerosis, coronary sclerosis, valvular heart disease, and advanced cachexias. Patients with moderate album-

inuria and cylinduria are not to be excluded from treatment if this is administered with due caution.

As a control of the result of treatment the complement fixation test as adapted by Wassermann and applied to the blood serum, and the examination of the cerebrospinal fluid according to Nonne, Benario, Gennerich and others, have become an established part of the technique of the thorough, systematic treatment of syphilis. Aside from their value as diagnostic aids it is impossible without recourse to these procedures, to arrive at an intelligent conclusion regarding the effect of treatment. It is, however, always necessary in the interpretation of their results to take into consideration the character and duration of the preceding periods of treatment, recent ingestion of alcohol, and above all the length of time that has elapsed since the last previous treatment. A positive Wassermann reaction in the bloodserum always indicates the presence of spirochetae pallida in the body, and a positive reaction in the cerebrospinal fluid indicates their presence in the central nervous system. As a control of the result of treatment if the Wassermann reaction in the blood is negative, lumbar puncture with an examination of the cerebrospinal fluid should be done in every case during the first year of the disease.

From a consideration of the foregoing and as the result of our personal experience with salvarsan during the past three (now four) years, we are of the opinion that, with very few exceptions, every patient infected with syphilis should be treated with salvarsan. The conditions directly contraindicating its use have been mentioned previously. Severe and extensive degenerative changes in the nervous system and advanced age of the patient may under certain circumstances also exclude the use of salvarsan. Although we regard salvarsan as indispensible for the treatment of syphilis in general, we give careful consideration in each individual patient to the question of whether or not, as well as how to employ salvarsan in his particular case. The disease cannot be treated according to any fixed preconceived schedule, but the treatment must be conducted as to size and frequency of dose in a manner to intelligently meet the changing requirements of the individual case. We occupy the position that the treatment is to be conducted as energetically as can be well tolerated by the patient, without implying a preference thereby for the large single dose over the frequently repeated small doses given at properly spaced intervals, with due regard for a possible toxic cumulative action.

It is of course impossible for salvarsan to effect a cure in every person infected with syphilis. For, though it possesses the power to destroy the spirocheta pallidum, its inability to sterilize the tissues in every instance is dependent (as Neisser shows) upon all manner of conditions that either prevent salvarsan from gaining access to the foci of disease, or, owing to the general condition of the patient, do not permit its employment in large enough single doses or a sufficient total dose. Nevertheless the superiority of its remedial action over that of mercury and iodid has long since been established, though there still remains the determination of the most efficient manner in which to employ it. At present and until such time as conclusive statistics are available, we must be guided in this question by the individual judgment of those whose experience and especial learning entitle them to speak with some authority.

The most recent contribution to the question of efficiency of method is that of Gibbard and Harrison of the British Army, presented at the International Medical Congress in London, August, 1913. Their investigations of 223 previously untreated cases of primary and secondary syphilis were designed so as to test the relative efficiency of intravenous injections of salvarsan (0.6 g.) given alone or in conjunction with intramuscular injections of mercury (calomel or mercurial cream) in the intervals. The comparison of the percentage of relapses—both clinical and to the Wassermann test—shows that one year after the last treatment those cases (97 in number) which had received two intravenous injections of 0.6 g. salvarsan separated by nine intramuscular injections of mercurial cream at weekly intervals, gave the lowest percentage of relapses (20.6 per cent.). In another series of 89 cases, treated from December, 1912, to April, 1913, with three injections of 0.6 g. salvarsan at five weeks intervals and ten weekly injections of mercurial cream, none have so far relapsed clinically or given a positive Wassermann reaction, but the patients have not been sufficiently long under observation to justify any opinion on the merits of this method. Before drawing any conclusion from these investigations as to their significance in respect to the cure of syphilis, it must be pointed out that no control has been made in these cases by the examination of the cerebrospinal fluid, which procedure in the light of our

present knowledge must be regarded as a criterion in this respect. An important feature of the investigation is the comparison made possible between the results of commencing treatment in the primary and secondary stages respectively. One year after the conclusion of treatment there were 9.6 per cent. relapses in 52 primary cases as compared with 33.3% relapses in 102 secondary cases —showing definitely the advantage of commencing treatment early in the disease. This statistical result is entirely in accord with the opinion held by most syphilographers, many of whom go so far as to express the belief that syphilis can be entirely aborted if early intense treatment is carried out. By means of darkfield illumination it is now possible to absolutely recognize the syphilitic character of a suspected initial lesion immediately upon its appearance, and therefore treatment can be commenced at a time when complete success is most likely to follow.

When from the standpoint of treatment we view syphilis at various periods in its course and duly consider its pathology, we can formulate a general plan to be pursued in its treatment, but which is of course subject to modification to meet individual requirements.

In the primary stage, when the blood Wassermann is still negative, an attempt to abort the disease by intensive treatment is imperative. If the chancre is favorably situated for excision it should be removed with the least possible delay, including the nearest regional lymph glands if possible. An intravenous injection of 0.35 g. salvarsan is given at once, followed by 0.4 g. after 5 days, and if this has been well tolerated, 0.6 g. can be given after a further interval of 10 days with an intramuscular injection of mercury salicylate preceding. Ten to fourteen days later, with mercurial injections in the interval, another dose of 0.6 g. is given (making a total of almost 2.0 g. salvarsan in 25 to 30 days). This is followed by a course of six mercurial injections, or by inunctions of mercury if the injections are not well tolerated. One month after the last mercurial treatment the Wassermann test of the blood is made and repeated every 3 to 4 weeks. If the test becomes positive the course of treatment is at once repeated. If it remains negative one injection of 0.4 g. salvarsan followed by mercury is given every 3 months for the balance of the year. At the end of the first six months the cerebrospinal fluid should be examined, if the blood Wassermann is negative, and again after one year. If found abnormal treatment must be resumed. Eight months after the Wassermann reaction has been constantly negative a provocatory injection of 0.4 g. salvarsan is given, and repeated if negative after six months. If positive, four doses of 0.5 g. salvarsan at 7 day intervals are given, and the result controlled as before. If both provocatory injections give negative results the second examination of the cerebrospinal fluid is made, and if normal conditions are found the patient is discharged from further treatment, although the serum is to be controlled 2 or 3 times in the following year.

For the treatment of secondary syphilis, as well as the advanced primary stage with positive Wassermann reaction, the same general plan is applicable as outlined above. But here it is advisable to begin the treatment with smaller doses (0.15-0.2 g.) in order to avoid febrile and other irritative effects. Potassium iodid in large doses is recommended by Pinkus at this time for the purpose of preventing meningeal irritation and neuro-recurrences.

In those cases of late primary syphilis that are within a few days of the eruptive period, as also those in the early secondary period in whom the eruption has just made its appearance, it is in our opinion advisable to withhold salvarsan for one or two weeks and commence the treatment with mercury by inunction. We have gained the impression, in common with Tomaszewski, that under this plan the disease is subsequently more tractable and much less liable to relapse both clinically and to the Wassermann test. When we consider that the spirochetae are present probably in larger numbers at the time of the secondary eruption than at any other period in the course of syphilis, and almost without exception have invaded the central nervous system, it is in our opinion the part of wisdom to avoid the sudden liberation of an enormous mass of endotoxins and the possible production of an acute inflammatory edema of the meninges with its attendant dangers. After mercury has exerted its "preparatory" effect in this period of syphilis, the treatment with salvarsan can be continued as described above, with caution as to the size of the first doses.

In syphilis of several years duration, treatment is to be preceded by a careful investigation of the nervous and vascular systems and an examination of the cerebrospinal fluid. In these old cases salvarsan in small doses (0.3 g.) continued over a long period, and judiciously combined with mer-

cury and potassium iodid, is of marked benefit and often exerts a decided tonic effect. We have the impression that at this time mercury is perhaps more efficient than salvarsan.

The treatment of tabes with intravenous salvarsan injections has in many instances been followed by gratifying results, which will doubtless be increased, in cases not too far advanced, by a further development of the technique. In this connection attention must be directed to the recent report by Brem (Journ. A. M. A., Sept. 6, 1913) on the intensive salvarsan and mercury treatment of these cases; and to that of Swift and Ellis who are injecting salvarsanized blood serum intraspinously with considerable success. Neisser is so favorably impressed by his results obtained with large intravenous doses of salvarsan, that he encourages all tabetics—except severe cases of late stages of the disease—to undergo this treatment. Dreyfus and Leredde are also advocates of large doses in this condition. Our personal experience with salvarsan in tabes during the past three (now four) years has been more than encouraging. We have given small doses of salvarsan (0.3 g to 0.4 g.) repeated at long intervals with mercurial injections following. In several instances the knee reflexes have been restored, crises and lightning pains have disappeared entirely or been subdued over long periods, pupillary abnormalities have been improved, and practically all have been benefitted by the treatment.

In contrast to this bright outlook in tabes there have been comparatively few reports of favorable results in paresis. Our own limited experience in this disease can record only one case that has been distinctly benefitted.

Even though it will not be possible to entirely cure every case of syphilis, we are at present entitled to hope that under the modern method of treating syphilis, its dire results in the central nervous system will be limited to but few instances. With the thorough employment of our present diagnostic methods, especially of lumbar puncture; and as a result of recent therapeutic progress, it appears certain that a decided reduction in the number of cases of tabes and paresis *must* take place, and that is a consummation worthy of our best efforts.

The preceding article was written one year ago, and has remained unpublished. During this period further experience has not led to a modification of the treatment as outlined above in any essential particular, but has rather strengthened the belief in its efficiency. Entirely similar views to those expressed above (especially in regard to size of dose and interval between doses) are now also held by many whose experience and judgment are well recognized. Intraspinous medication is indicated only after intravenous treatment has ceased to produce further improvement, and then should be used only in selected cases and by those expert in its technic.

DISCUSSION.

Dr. L. Schiller, Milwaukee: Members of the Society —I wish to congratulate the collaborators on the excellent manner in which this subject has been presented by them. I think that they have presented the subject in a very lucid, concise, and up-to-date manner, so that everyone can understand what progress has been made in this comparatively new field of medicine. We all know that the subject of syphilis has been a bête noir until a comparatively recent time, and only within the last ten years has that necessary light been thrown on this question to bring it in the field of actual and positive medicine.

The period of 25 years ago when the question of whether chancre and chancroid are or are not the same identical disease, when the partisans were divided into the two camps, the unicists and the dualists, is in the memory of a great many of those who are here present. Neumann and Kaposi were continually pulling hair as to who was right, Neumann, the dualist, or Kaposi, the unicist. Eventually before his death Kaposi accepted the dualist theory. From this to the discovery of the cause of syphilis, namely the spirocheta, was a long period of indefinite research, and Schaudin at last has the honor and glory of having brought the first light into the real meaning of the disease, although before this it was known that the disease was due to a toxin, and this toxin is now known to be caused by that little spirillum, the treponema pallidum or the spirocheta pallida. The other discovery by Wassermann is as momentous for the progress of the disease as that of Schaudin. The complement fixation reaction is necessary in order to positively determine anything concerning the disease after the active symptoms have disappeared. And in those cases where the disease runs its course without any apparent local manifestations except perhaps the initial insignificant chancre, where the patient absolutely gives a negative answer to the question as to whether or not he, who is now a paretic or a tabetic, ever had a primary lesion, or any other lesion or symptom, or set of symptoms relative to the disease, the examining physician is now able in most cases to positively determine the actual condition of affairs and positively put the patient down as having had syphilis, whether he himself or his progenitors have been the cause.

The next advance is the discovery of the drug which at the present time must be put down as an efficient remedy for the cure of the disease. The question of the efficiency of salvarsan has of course had rather a stormy progress; the first embracing of the remedy as the universal cure-all, and later on the discrediting of the remedy on account of its not being curative in all cases,

and then again being discredited on account of the many ill effects which the remedy had produced in different instances. These three attitudes, of course, are very often met with in new discoveries, where the discovery is handled indiscriminately by every tyro, who knows nothing whatever of the meaning of this new discovery, whatever it may be, and handles it as a poor ignorant man handles dynamite.

The cause of failure in most instances has been due to insufficient intensity of treatment. One injection cannot be depended upon in any case, and the average number of injections in recent cases is about four, while in late cases many more must often be given to get a positive and lasting result.

While at the beginning salvarsan was credited with the many untoward systemic disturbances and in a few instances, death, it is now fairly well settled that accidents are due to faulty technique. The question as to the use of mercury after salvarsan has converted a Wassermann positive into a negative, is a mooted one, and some of the best authorities, including Wechselmann, do not advocate its use, while a great many others, among them Neisser, do.

Dr. C. F. Hoover, Cleveland, Ohio: Mr. President, I would like to say just one word for mercury. Of course, to know how much a syphilitic may be protected, or for how long he may be protected against a recurrence is quite impossible. We cannot learn that within the life of any one man; probably not within the life of any two men, that is, in succession. Not long ago I saw a man 63 years of age with a large syphilitic liver, who had a chancre when he was a boy 19 years of age, and who had been treated at Guy's Hospital, London, for 8 months with mercurial inunctions. In the meantime he had emigrated to America, had become the father of a family of children, all well-grown. His wife and himself gave a very good reproductive history. This man went from 19 years of age to 63 without treatment and without recurrence, and I saw him with an enlarged liver due to a syphilitic process, with free fluid in the abdominal cavity, all of which disappeared with the use of mercury. So when a man can go from 19 to 63 in perfect health, I think we are rather hasty in formulating judgments about recurrence within the course of a few years.

Now I should say that if there is any one great contribution on the part of the Wassermann reaction and invention of salvarsan, it has been that it has taught us how to use mercury, a thing we never knew before. In spite of the very long clinical career that mercury has had, I really think it is only since the Wassermann reaction, the discovery of the spirocheta and the production of salvarsan that we actually know how to use mercury. We get just as rapid cures with mercury as we get with salvarsan. I remember Drs. Swift and Ellis undertook the first injection of salvarsan into the blood intravenously, and then taking the serum of these patients and injecting it into the subdural space or sub-arachnoid space, because the premise for this work, and premise for this method of treatment was the statement that it did not reach the liquids in the subarachnoid fluid, and did not abrogate the Wassermann reaction. Of course I never believed that at all, but since that time to prove it we have observed all of our syphilitics very accurately, and we made the count and Wassermann reaction before mercury is instituted and after it is instituted. For instance, one instance I can refer to, a man had 100 cells to the cubic millimeter, with a positive Wassermann reaction, who had an acute febrile cerebro-spinal syphilis. That man after 4 injections of one-half grain of biniodide of mercury intramuscularly had a perfectly normal cell count with a negative Wassermann reaction, and all of his symptoms had disappeared. A woman whom I have under observation just at present is a patient who had only one-sixth of a grain of biniodide of mercury intramuscularly, with a severe cerebral syphilis, with hemiplegia and aphasia. We found the cells were reduced from about 60 or 70 cells to the cubic millimeter down to about 20 cells, and that was with only 6 injections of one-sixth of a grain of biniodide of mercury; but unfortunately the woman had such bad teeth they could not use mercury in such large amounts, and therefore, we have used salvarsan as well. So my impression up to the present moment is that the only field really for salvarsan is in those patients who cannot tolerate an adequate amount of mercury.

Dr. O. H. Foerster, Milwaukee: I will only occupy a moment of your time. It seems to me the large point around which the intelligent treatment of syphilis revolves in the light of our present knowledge is the possibility of sterilization of the central nervous system, and the prevention of later occurrence of tabes and paresis. That, it seems to me, is the vital point of the whole matter. Of course mercury has a very definite influence on the spirochetae and upon all the manifestations of syphilis; but it is highly necessary to prove that the effect of salvarsan is not only more definite, but is more lasting. I believe that half the cases which have been treated three years ago, today show absolutely normal conditions. I saw some of these in Berlin only last month treated by Wechselmann three years ago and longer. I think we must, under these conditions, believe in the possibility of using salvarsan in men who never have been able to use mercury before.

Dr. C. A. Baer, Milwaukee: I just wish to emphasize the fact that the changes in the central spinal fluid can be discovered before there are any clinical symptoms, and therefore they often are present when it is not known that they are there. They appear, as we have shown, very early in the disease, and that is the time to institute a very strong, heavy attack.

DIAGNOSIS OF INCIPIENT PULMONARY TUBERCULOSIS.*

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No excuse is offered for bringing before you this afternoon a trite and time-worn subject. The fact that tuberculosis of the lungs is so exceedingly

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common and has so many and varied onsets, and the absolute necessity of recognizing it in the stage when it can be most easily cured, makes it one of the most important of all diseases. Unless we can diagnose the very earliest cases which come to us we cannot hope to give our patients the service which they should have from us as their right.

Very few of us escape some lesion with the tubercle bacilli. It may be only a gland, it may be a very small apical scar. The more autopsies one sees, the more one is impressed with the curability of small lesions unknown to the individual. Seeing so many healed lesions at autopsy and knowing that so many (75% to 85%) adults over 35 years react to the finer tuberculin tests such as the v. Pirquet or ocular tests, one cannot escape the belief that many of the periods of loss of weight and malaise from which people suffer, and after a vacation or change of occupation or no change at all recover completely, have been mild infections with tubercle bacilli at one or the other apex. In no other way can we account for the frequency of healed lesions.

We are accustomed to recognize two classes of early tuberculosis of the lungs,—closed and open. The names are self-explanatory: "Closed" means that there in infiltration with tubercle formation around terminal bronchi but no softening, or rather, no softening in connection with a bronchus. "Open" means that softening has taken place in the centers of the masses of tubercles and there is direct communication between the tuberculous process and the outer air. A bronchus leads directly into the tuberculous focus. There is absolutely no danger of contact infection from one, but danger from the other. The one (closed) is in general an earlier stage of the lesion than the other (open). The former is easier to cure than the latter. It is harder to diagnose, for we have no tubercle bacilli in sputum. There is no sputum, no cough. The closed cases then are the ones which we should recognize, if possible, and should bend all our energies to that end.

When a patient presents himself to me and says that he thinks there is some trouble in his lungs and wants an opinion as to whether or not he has tuberculosis, I know that I have before me one of the most difficult problems in diagnosis. It is one thing to tell a well man that he is well, but quite another story to tell a man who thinks he is sick that there is nothing the matter with him. Think what a positive diagnosis means to the patient! Several months to a year or two out of his life. One hestitates to condemn a man to such a time-consuming process unless he is sure of his diagnosis.

Normally there is a difference in the two apices. The right apex has a distinctly higher pitched percussion note and the breath sounds have a bronchial character, there is an almost equal length to in- and expiration. This must be borne in mind when one examines a chest. I am convinced after the experience of twelve years that when the two apices are equal in percussion and auscultation, that is, the left is like the normal right, that the left apex is the seat of infiltration, most probably tuberculosis.

It is generally given in all statistics that the right apex is more often the seat of the first process than the left. This may be so in post mortem findings of healed lesions but I am convinced that we just as frequently find recent lesions in the left as in the right. One explanation for this discrepancy is that the process begins more often in the right, apparently heals but when the patient has actual symptoms for which he consults his physician the left has become infected and is the recent lesion.

No careful diagnosis is ever possible without a painstaking, accurate history as a preliminary guide. In fact one is often able to make a diagnosis from a history alone. A careful inquiry into the patient's ordinary life often reveals facts which to him seemed trival but which have great weight in a final diagnosis. Often a patient will give his history and neglect to tell certain facts. Of these usually neglected facts one is the inability of the patient to do the acts of the daily life without feeling more tired than he really should feel. Or he finds that he has lack of initiative, of ambition, he has no desire to take up new work or concentrate on new ideas. With these there is invariably some loss of weight, not necessarily loss of actual strength however. Cough may be wholly lacking. In the closed cases it is not usually present. Careful record of the temperature at four hour intervals for three or four successive days often shows an unperceived rise of a degree or degree and a half especially towards afternoon with a sub-normal temperature in the early morning. Such a patient looks perfectly well, has a good color and to even an acute observer would pass anywhere as perfectly healthy. It is not well to be misled by appearances if we wish to diagnose early tuberculosis.

It is hardly necessary to go into detail in regard to the several modes of onset of early tuberculosis. The onset with cough, the onset with hemorrhage, the onset with a pleurisy with effusion are familiar to all. What do not seem to be so familiar are the onsets with symptoms of neurasthenia, indigestion and dyspepsia, and indefinite malaise. The more skilful we become in diagnosis the fewer cases of neurasthenia we diagnose, until it has become an axiom with us in the hospital, "Every supposed neurasthenic has a pathological basis for his array of symptoms." That basis has proved to be incipient tuberculosis of the lungs in almost every case. In fact until we can absolutely rule out tuberculosis by all our finer tests we do not look for other pathological conditions.

Again, we are more and more convinced that neuroses of the stomach are rarely ever diseases *per se,* but are secondary to definite diseased conditions often remote from the stomach. Diagnoses of gastric dyspepsia, of gastric catarrh, of chronic gastritis, etc., etc., are not diagnoses but expressions of ignorance of or inability to locate the fundamental pathological lesion. Time and time again patients whose sole complaint is their stomach are found to be suffering from early pulmonary tuberculosis. This cannot be too much emphasized. Persistent stomach symptoms do not, as a rule, mean disease of the stomach but some disease of the abdomen or chest which reflexly affects the stomach. Malaise, indefinite feelings of ill-health, often is the onset of tuberculosis. Attention to the history and points noted above help to clear up the diagnosis.

INSPECTION.

Now having obtained all we can from the patient we shall next strip him to the waist and sit him before us on a stool in a good light with ourselves between him and the light. Let him assume an easy position, hands in lap, shoulders slightly rounded and drooped forward with the head slightly bowed. Now watch his respiration for a while. Much can be learned by careful inspection, much more than is generally considered. Look at the clavicles, the fossae above and below them, fullness of one or other side, asymmetry of the chest, costal angle, expansion. Now turn the patient around and look at the back. Note depressions or elevations in the supra-spinous fossae, in the interscapular spaces, the expansion of the chest on quiet respiration. Now ask the patient to take a deep breath and note carefully any differences between the two sides. Note also the presence or absence of profuse sweating under the arms and note the odor of the skin. Many healthy looking early cases sweat profusely and have a curious, unmistakable, musty, acid odor. These are found so frequently that we have learned to interpret them as valuable sign-posts indicating to us that we must use every means to discover the presence or absence of foci in the lungs.

PALPATION.

Usually one can see limitation of expansion but occasionally it is better perceived by placing the hands on symmetrical places from the apices to the bases and then ask the patient to take moderately deep breaths. An excellent method is advocated by Hoover. Place the hands flat on the lower anterior chest wall with the insides of the thumbs in contact with the costal arch and the middle fingers pointing toward or actually touching the nipples. Normally the two hands should flare out equally with the diaphragm contraction. Any slight limitation produces less excursion and can be both seen and felt by the observer.

One other point is often valuable, viz.: the visible and palpable spasms of fibers of the trapezius or superior rhomboids or both. We have found this a help only at the posterior apices in the supraspinous fossae. Dr. Pottenger described this sign and it now goes by his name. It is, in our experience, often, but not always, present in early disease.

PERCUSSION.

No one who uses strong percussion can ever hope to appreciate early apical changes. One must not only use light percussion but almost inaudible percussion and actually learn to feel the change of pitch with the pleximeter finger. Frequently we have found that by striking over the suspected part with three fingers of the hand held bent so that finger tips are on a line, we could better differentiate slight changes in pitch. This mediate percussion has this disadvantage. We know that rather violent striking over any portion of the lung, but especially over the apex, actually produces a changed note in a normal lung, a higher-pitched note. Hence our percussion must be as brief and light as possible in order that we may not be confused by changes brought about by ourselves and not due to actual pathological lesions. One should mark any change of pitch, especially

a curious wooden character to the note, hard to describe in words. These changes occur early. Also percuss out the apical resonance. Changes in these areas are significant of lesions past or present.

MYOIDEMA.

When one strikes a sharp blow on the chest with one finger one frequently sees a contraction of the muscle fibres, a transient hard lump at the point struck, and a wave which passes along the muscle fibres beneath the skin. By lightly, but quickly, pinching the biceps with the thumb and forefinger, a prominent ridge at once appears across the biceps and the wave can be seen proceeding to the elbow and shoulder. This phenomenon is known as myoidema. Myoidema is found in various conditions when rapid loss of weight is present, in cachexias, frequently in acute fevers. It is not a sign of pulmonary tuberculosis but when we have found marked myoidema in an apparently strong, muscular person we have never failed to find tuberculosis of the lungs. Hence we have come to regard its marked presence in fairly healthy looking people as most significant. It at once draws attention to something unusual and warns us to be most careful in the examination.

AUSCULTATION.

This is really the most important of all the physical means of examination. Only a few points which have proven of assistance to us will be noted.

Even before one can make out with certainty the change in in- and expiration one can hear an increase in the whispered voice sounds over a tuberculous focus. Get the patient to whisper—one, two, three—and move the bell of the stethescope over the apex. One will find frequently only one spot hardly larger than the diameter of the bell (2-2.5 cm.) where the sounds seem to come close to the ear. Normally at the right apex the whispered voice sounds are loud but they have not the quality which denotes infiltration.

If rales cannot be heard on ordinary cough they can sometimes be brought out by having the patient inhale deeply, exhale forcibly and then cough at the end of expiration (Lawrason Brown). But it is possible to make a diagnosis of pulmonary tuberculosis before there are rales or better possibly, in the absence of audible rales.

Friction sounds are often heard if listened for carefully and may be a very early sign. One must be careful, however, not to allow the sounds produced by fibrillary twitchings of the muscles to confuse him. These "muscle sounds" are very frequently heard in just this type of cases. The blood pressure, both systolic and diastolic, shows no characteristic changes. It is usually normal.

The number of leucocytes in the blood is normal, but a very helpful associated sign is the increase of lymphocytes found in making a differential count. We have seen it as high as 38% in an adult.

TUBERCULIN.

We have now been using tuberculin for diagnostic purposes for the past ten years and have formed some very definite impressions.

We are firm believers in the cutaneous reaction of v. Pirquet. A slight positive reaction to 25% O. T. in an apparently healthy adult does not offer any help as about 75% of the adult American people react. But a marked positive reaction means active tuberculosis. We have seen in a number of cases reactions 2 cm. in diameter with lymphangitis as far up as the upper third of the upper arm (the papule on the forearm) and tender, enlarged axillary glands. We have also found slight fever accompany the cutaneous reaction.

Between the slight positive reaction and the marked positive reaction there are various gradations. It is not possible to say at what point the positive reaction means active tuberculosis but one can state very definitely this,—whenever there is a large reaction with definite lymphangitis, the case is active.

The cutaneous test where negative on two occasions in our opinion proves that the case is not tuberculosis. This is of very positive value for we see cases with indefinite signs and symptoms in whom we suspect, but cannot prove, tuberculosis until the test is performed.

In a case such as the above the positive test, if not marked, should lead us a step further either to the intradermal or subcutaneous use of the old tuberculin. There is just as great a difference between these two methods as there is betwen the subcutaneous and intravenous administration of a substance.

We aim in the intradermal administration of O. T. to place 1/10 mg. in 1/10 c.c. by means of a sharp fine hypodermic needle, just as superficially as possible into the dermis so that a small white wheal is produced by the injection. After

24 hours, if positive, there is redness, swelling, heat, slight tenderness for an area at least 4x6 cm.

Therefore suspicious signs, positive v. Pirquet, positive intradermal O. T., the case is tuberculosis.

Occasionally we use the subcutaneous reaction beginning with one to three mg. according to the condition, size, strength, character of lesion of the patient. In this method we aim to get a constitutional as well as local reaction. This is not as useful for office work as the intradermal, because it is necessary that the patient go to bed and have careful temperature estimations for at least 24 hours after injection. While we have found it of great value in certain cases especially when we wish focal reactions, as in surgical tuberculosis of bones and joints, we prefer the intradermal method for lung lesions.

CONCLUSIONS.

Early tuberculosis is difficult to diagnose. A careful history is of great value. Many persons showing symptoms of neurasthenia and stomach trouble are cases of incipient pulmonary tuberculosis.

Diagnosis can be made before there is cough, before there is any use for a miscroscope.

Attention is called to the odor, sweating under arms and myoidema as valuable warning signs.

A negative v. Pirquet test (25% O. T.) if done correctly on two occasions several days apart upon an apparently healthy individual proves the absence of tuberculosis.

A positive v. Pirquet may (but not necessarily does) indicate active tuberculosis.

Increase in the whispered breath sounds is a most valuable auscultatory sign.

Tuberculosis of the lungs is so common that in a doubtful diagnosis it must be absolutely ruled out by every means before it can be said not to be present.

THE PREPARATION OF BACTERIAL VACCINES.*

BY E. V. BRUMBAUGH, M. D.,
MILWAUKEE.

The use of bacterial vaccines is based upon the application of the principles of immunity to therapeutic use. In order, therefore, to make a clear statement of the fundamental facts it may be advisable to briefly review the principles of immunity.

By immunity we mean the power which the body possesses, of successfully resisting the invasion of parasitic organisms. This immunity may be either natural or acquired. That is, the animal because of its peculiar organization may be incapable of infection by a given parasite, and this immunity may be a characteristic of all the individuals of that species. Such is the natural immunity of the domestic animals to syphilitic infection.

Immunity may likewise be acquired by susceptible individuals in a variety of ways. It may be that the immunized individual has recovered from an infection, and thereby become immune through a change in his structure so that he is no longer susceptible to the infecting parasite. Immunity may likewise be secured by the introduction into the body of the individual of substances which combine with, destroy or render harmless the infecting organism. This type of immunity is termed a passive immunity, in distinction from the active immunity in which the body is in some manner stimulated to the production of its own neutralizing substances.

While the passive immunization method has had the great advantage that its action is immediate, as the introduction of such an immunizing substance as diphtheria antitoxin into the tissues of a patient, yet at the same time it offers the great disadvantage that such a method grants a protection which lasts but a short time, not more than a few weeks in the majority of cases. There is the further disadvantage that this method of immunity production is applicable in but few instances, diphtheria and tetanus being practically the only cases where the method may be said to be really dependable.

Another method, then, if such method can be devised,—a method which would produce a more lasting immunity,—and one which would be applicable more generally would be of infinite benefit.

The earliest attempts to produce an active immunity consisted in the inoculation of the body with the active virus of small-pox, and this method while efficient was both dangerous and at the same time repulsive to the patient and frequently left permanent marks on the patient.

The introduction by Jenner of the practice of vaccination by using the cow-pox virus therefore may be considered as the first really practicable method of artificial immunization.

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*Read before the Medical Society of Milwaukee County Sept. 11, 1914.

This is followed by the experiments of Koch in the immunizing of sheep to anthrax, and may be fairly considered to be the first introduction of bacterial vaccines into the prophylaxis of infectious diseases.

The bacterial vaccine then, consists of an emulsion, most frequently in physiological saline solution, of the organisms against which the immunity is to be produced. These bacterial organisms have had their reproductive powers destroyed or diminished by a preliminary treatment either by heat, drying, chemical agents or exposure to a previously immunized serum, or long cultivation on unfavorable media, and are therefore in a less virulent condition than in the normal case.

A measured or standardized dose of this emulsion is administered to the patient and its effects carefully watched and the dosage governed by the clinical symptoms that follow.

Inasmuch as the action of a bacterial vaccine is specific, it follows that the desired immunity can be produced only by the administration of exactly the proper vaccine produced from the identical organism against which the immunity is to be developed.

The use then of a vaccine, must be predicated on a previous careful determination of the nature of the infection, and a determination of the particular infecting organism, and unless this be done, the application of vaccine therapy is nothing more than haphazard guess work.

Because of the lack of this careful preliminary determination of the exact infecting organism, and because of a wide spread advertising propaganda by detail men representing commercial preparations of bacterial vaccines, there has come to be a belief on the part of a considerable number, that the use of vaccines is in the experimental stage, and a tendency on the part of some to deny the usefulness of the vaccine treatment of infections.

The question as to the choice between stock vaccines and autogenous vaccines, in the treatment of infections can be made only in favor of the vaccine made from the particular strain infecting the patient. The importance of this point will easily appear from the consideration of the factors underlying the problem.

This problem is, to secure the production of such a sensitization of the body cells that they may, as rapidly as possible without danger to the body, destroy the invading organism and render the products harmless.

Bearing in mind that in an infection, the ability of the body cells to overcome the invasion of the parasite is decreased below its normal factor, the problem then can be restated so that we may say, the function of the vaccine is to create a hypersensitivity of the body cells to the foreign proteid represented by the invasive organism, without at the same time introducing so much of the foreign proteid into the body that it is overwhelmed by the poisonous portion of the proteid set free when its final decomposition takes place. In other words a deliberate attempt is made to make use of the underlying principles of anaphylaxis.

The body cells, as well as the blood, by the action of the infecting organism are stimulated to resist the invasion, but the action under the influence of the infection is a local one. The introduction of the vaccine into the system of the patient results in the production of an increased ability to destroy the foreign protein represented by the bacteria.

This destruction of the bacterial protein outside the intestinal tract, sets free a portion of the protein molecule which is a powerful poison in minute doses, and the elaboration of this poison in the destruction of the injected bacteria of the vaccine undoubtedly constitutes the "reaction". This poison it must be remembered is not specific nor is it a toxin, neither does it elaborate an antibody although a tolerance can be established towards it, at least to some extent.

Therefore the specific action of the vaccine resides in the non-toxic portion of the bacterial cellular body, and it is perhaps in this respect that the greatest advance in the vaccine therapy lies,—that is in the administration of sensitizing doses of the cellular portion of various bacteria from which the toxic portion of the molecule has been removed.

These points then being borne in mind and the further great variety of strains of various bacteria, particularly among the streptococci and the bacteria of the colon group, it would appear that to approach the problem with very much hope of success, it would be necessary to obtain the exact, specific, sensitizing portion of the infectious agent which can be done only by using the identical infecting organism. Remember that the poisonous portion, which is believed to be the cause of the disease and which may, by its various localizations, set up all the various clinical symptoms of the numerous infectious diseases, is general, and is found in all the bacteria, while the sensitizing, specific portion, which results in the destruction of

the infecting organism is found only in the particular organism.

Therefore when a bacterial parasite presents many types and varying characters the use of any other than the particular type involved is not an example of rational therapy. Among those organisms which are not subject to so great variation the use of the stock vaccine is often of marked benefit, as for example the staphylococcic vaccines, which are probably the best of all the stock vaccines as far as certainty of result and good effects are concerned.

An effort has been made to overcome the objection above mentioned by the gathering together of many strains of bacteria and from widely varying sources, in the hope that a stock vaccine thus prepared may contain the particular strain causing the disease and thus its beneficial action may be exerted. Of course the chance of any such case being true depends on the number of possible strains and their number, at least with some organisms, appears legion. And even if it should by chance result that the strain causing the trouble in the patient should be among those in this vaccine of mixed type, yet with such a vaccine, anything approaching an accurate dosage is absolutely impossible. First because the number of bacteria of any particular strain in a general vaccine, is impossible of estimation, and secondly because of the necessity of administering together with the one valuable form the numerous other useless forms that have been added to the vaccine for the purpose of making it of at least some general use. The digestion of these useless forms of bacteria, parenterally, results in the liberation within the body too, of larger amounts of the proteid poison with its resulting depression of the vitality of the patient.

If this be the case with the stock vaccines of one species, what shall be said of the use of the so-called "mixed infection" vaccines in which one vaccine may contain the organisms of diphtheria, the streptococcus, staphylococcus, colon, gonococcus, and perhaps others, in one great "shot gun" in the hope that some one of them may hit the mark.

It can not be too strongly emphasized that if good results are to be obtained from vaccine therapy, the treatment must be a rational one and based on a thorough understanding of the fundamental conditions underlying the use of the agent. A vaccine is useless except for a specific condition and before beginning its use it must be known that the particular organism is present. A so-called "stock vaccine" meets only the particular organism which it contains, and against others is worse than useless because it may beget a false confidence in its value.

On the other hand the use of vaccines for the purpose of preventing infection, as the use of the typhoid vaccines in the prophylaxis against typhoid, in the army, is most valuable if the vaccine consists of mixed strains, and preferably from as many and as widely separated sources as may be obtainable. For here the problem is different. The purpose is, not to produce immunity against a specific organism which has already effected an invasion, but is to so sensitize the body that its cells may be enabled to overcome and digest any foreign organism that may seek to invade the patient. Therefore it is a rational procedure to introduce as many strains as can be secured in order that as widely varied an immunity as is possible may thus be secured.

That this course is the reasonable one is proved by the almost marvelous results that have been secured in the army.

The use of an "aqueous solution of the metabolic substance generated by bacteria" hardly seems to be a form of treatment to be recommended, particularly when "several varieties of staphylococci, streptococcus pyogenes, bacillus pyocyaneus, diplococcus pneumoniae, bacillus typhosus, bacillus coli communis, streptococcus rheumaticus, streptococcus erysipelatis, etc.," are combined, the bacteria first killed and then removed by filtration. This mixture certainly contains the "metabolic products" of a large number of organisms and if they should have any value certainly the chances that one of them might hit the mark certainly varies directly with the number of shot in the cartridge. However, there has been no evidence based on any scientific foundation that the metabolic excreta of the bacteria are of value in the treatment of disease and indeed all the experimental evidence goes to show the contrary.

The metabolic products of the bacteria are either of the nature of poisons or else they are comparatively harmless. Immunity is produced through the cellular substance of the bacteria, which stimulates the lytic powers of the body cells, so that the bacteria may be destroyed. Autolysis of the bacteria results in a cleavage of the protein molecule in such a way that the poisonous portion is set free, and the other part may or may not have

antigenic properties. The toxic portion of the molecule, however, does not have antigenic properties and the best that can be hoped from its administration is the establishment of a limited tolerance. It would therefore seem that the best to be hoped from the administration of such a production as was previously referred to would be gained from whatever residue of cellular bodies of bacteria might be in the liquid and inasmuch as this product is advertized as having been sterilized by filtration it would seem impossible that there should be any of the cellular body substances present in the product.

The subject of this paper does not include the use or preparation of Jennerian vaccine virus, nor of the sera or antitoxines and they will not be considered further than to emphasize the difference in purpose between the vaccine and the serum. That is, the vaccine is for the purpose of producing an active immunity of lasting duration while the serum produces immediately or within a short time, a passive immunity. Of the two methods, for therapeusis, of course the serum is far more sure and of immediate effect. Unfortunately the number of sera available for this purpose is limited. For the purpose of prophylaxis and to produce a more lasting immunity the vaccine is the method of choice.

Summarizing then the points which it has been the purpose of this paper to make:

First—Bacterial vaccines are a method of producing an active, acquired immunity. This immunity may be produced either in an infected individual or in an uninfected.

Second—The immunity produced by bacterial vaccines, is produced by a specific, sensitizing portion of its protein molecule. Therefore, bacterial thereapeusis is a specific method of treatment and is valueless without accurate and definite knowledge of the particular infecting organism.

Third—Autogenous vaccines because they are definitely isolated from the particular individual are greatly superior to "stock vaccines".

Fourth—Stock vaccines find their principal value in

(a) Infections in which the causative organism presents comparatively few strains or where the various strains are similar in pathogenic power and

(b) In the production of prophylactic vaccines.

Fifth: Mixed vaccines and filtered cultures of mixed bacterial growth have value only as chance may result in striking some of the infecting organisms in the greater useless mass of the mixed vaccine.

Sixth—For quick treatment in acute cases, specific sera if available are more valuable than vaccines. For lasting immunization vaccines are more valuable.

TRANSFUSION OF BLOOD.

THE CASE OF POPE INNOCENT VIII IN THE YEAR 1492.

WAS IT A DRAUGHT OR A TRANSFUSION OF BLOOD?

BY H. M. BROWN, M. D.,
MILWAUKEE.

A few months ago there appeared in one of the issues of the Journal of the American Medical Association, (Vol. LXII, No. 7, p. 553.) a short communication concerning the matter of an alleged transfusion of blood into the veins of Pope Innocent VIII who died in the month of July in the year 1492.

The gentleman who contributed the article, seems to have had for his only authority in the case, the statement of Pasquale Villari, who was born at Naples, in the year 1827, and who contributed to the World's knowledge a vast amount of learning along historical lines, most of which is as exact as history seems ever to be, but in this particular instance he seems to have had but a very trifling amount of authority for his conclusions, and to have either incorrectly, or quite without understanding, translated the material at hand, in drawing his conclusions as to the nature of the means employed to attempt the prolongation of the life of the Pontiff. To this question, as to every other, there are two sides, and it may not be without interest to a portion of the readers of The Wisconsin Medical Journal to take a glance at both of them. This having been done the conclusions may be left to the personal tendencies of each particular reader, —and after all,—what difference does it make to anyone, except he be, like the writer, a collector of useless information. Let us start in our investigation with a short review of the status of the knowledge of the time as to the blood stream, the anatomy of the heart, and the purposes of the blood vessels and lungs.

In the year 1492 there had been no concept formed of anything like a *circulation* of the blood. The liver was thought to be the source of the blood, it being fabricated from the food in that organ by a process of "coction".

Whatever "coction" might mean, varied with the investigator who chose to write upon any particular subject, but it was generally understood to convey the idea of a process, something akin to the formation of wine from the must of the crushed grapes, or the production of the finished beer from the fermented mash in the process of brewing. At that period there were three spirits supposed to be in the body. One, the Natural Spirit, had its habitat in the liver and veins, another, the Vital Spirit, was generated from the blood and by means of air brought into the heart by way of the trachea into the left ventricle of the heart. This Spirit had its habitat in the heart and the arteries, and its purer portion being lighter than the rest, rose because of its lesser ponderosity, through the carotids to be made into the third Spirit in the ventricles of the brain. This Spirit when it had been perfected, again by "coction", became the food for the Third Soul or Principal, or controlling soul and was called the Animal Spirit. The blood was conceived to move about the body because of the function of "Pulsification" which function was inherent in the arteries, and this pulsification served to bring about an ebb and flow analagous to the tides of the ocean; the "perioidos haematos" of Hippocrates. The blood coming from the liver to the right side of the heart was sent by way of the arterial vein—*pulmonary artery*—to the lungs, where it was tempered as to its inherent heat and then returned by the flow through the same arterial vein to the heart. The arteries contained mostly air, but as the air was drawn from the lungs into the left side of the heart through the venous arteries—*pulmonary veins*—at the same time a certain quantity of blood flowed into the left ventricle from the right ventricle, through certain porosities in the inter-ventricular septum and there mixed with the air, and, the vital spirit having been generated, this blood and air passed out of the heart by way of the aorta or arteria magna and was disseminated throughout the body and was destroyed in the process, a new supply always being formed by the liver to take its place.

Such was the theory in regard to the blood-flow, and such the physiology as taught by Galen, that had come in its reverberating falsity, down through the years since his time in the second century A. D., and such was the physiology taught throughout the world at the time when the famous transfusion (or was it a drink?) took place in Rome in the year of our Lord 1492. Get these facts well in your mind and you will have a reasonable basis of knowledge upon which to build a conclusion,—if you care to build one.

Now let us see what was written about it all, by men who were contemporaries, or nearly so, of Pope Innocent VIII, or rather to introduce these contemporaries let us listen to what DeCormenin, a good Catholic, but a bitter hater of the forms of the church, and particularly of ecclesiastical politics, has to tell us in his History of the Popes. He says p. 149, Part II. * * * "and he died on the 25th of July, 1492, of an attack of apoplexy. Stephen Infessura maintains that the Holy Father in his last sickness, attempted to reanimate the sources of life by means of a frightful beverage, composed by a Jewish physician, with the blood of three young boys of ten years old, who were murdered for the purpose. Onuphre and Ciaconius relate the same fact, which they place at an earlier period."

"Onuphre," a continuator of Platina, I have not been able to locate but Ciaconius follows Infessura who was one of the contemporaries. We shall get the exact words of Infessura a little later.

Leo's Geschicte von Italien, Vol. IV., p. 618, in a note gives the following:

"In des Pabstes letzter Krankheit, machte ein Jüdischer Arzt einen Versuch ihn durch die *transfusion* zu retten. Drei Knaben wurden ihrem Aeltern zu diesem Experiment verkauft, (jeder für einen Ducaten,) und alle drei sterben nach der Operation, ohne dass Innocenz irgendwie geholfen worden wäre. Der Jüde aber ergriff die Flucht. Raynaldus Darstellung zu folgen, war es nicht sowohl eine Transfusion die bezweckt wurde, als ein *verjüngender Bluttrank.*"

Here we are introduced to another of the contemporaries, Raynaldus.

Sismondi, Vol. II., pp. 367-368, states that it was a case of transfusion. Gregovorius, pretending to follow Infessura, but lending his imagination to Infessura's statement, states that it was a transfusion, as will be seen by what follows, taken from his "Geschicte der Stadt Rom in Mittlealter," Vol. VII., p. 279. "Von seinem halbfügtiten Nepoten umringt, lag Innocenz VIII unterdess sterbend im Vatican. Er vermöchte kaum noch andere Nah-

rung zu sich zu nehmen als Frauenmilch. Wenn das zauberer Bild des verscheidenen Medici, welchen sein Arzt durch einen Trank von aufgelösten Diamanten, vergebenes zu retten suchte, eine sinnvollen Fabel von dem wirklichen Wert des reichtums gleicht, mit welchem Namen sol man wohl die scene benennen, die am Todtenbett, eines Pabstes gespeilt haben soll? Sein Jüdischer Leibarzt kam auf den Gedanken, dem Sterbenden das Lebensblut von Knaben einzuflössen: drei Zehnjäriger gaben sich dazu um geld her, und sie starben als opfer dieses frevelvollen Versuchs.

Nota: "Judaeus quidem fugit, et Papa sanitus non est." Das Blutgeld, wär ein Ducaten für jedes arme kind. (Infessura et Raynaldus.)"

Here again we meet Infessura and Raynaldus.

Now for Villari. In his book, Savonarola's Life and Times, published 1859-1861, Vol. I., p. 151, we find the following:

"In fact the vital powers of Innocent were rapidly sinking; he had been lying for some time in a lethargic state, that was occasionally so death-like as to make his attendants believe that all was over.

"Every means of restoring his exhausted vitality had been tried in vain, when a Jewish doctor proposed to attempt his cure by means of a new instrument for the transfusion of blood. Hitherto this experiment had only been tried upon animals; but now the blood of the decrepit Pontiff was to be transfused into the veins of a youth, who gave him his own in exchange. Thrice in fact, was the difficult experiment made. It did no good to the Pope, and three boys costing the sum of one ducat apiece, lost their lives, through the introduction of air into their veins. The Jewish doctor fled and on July 25th, 1492, Innocent finally expired."

In a note, Villari gives Infessura as his authority. It may well be said that in the whole statement made by him he misquotes rather than quotes him. Villari's statement is a pretty little romance. Note the anxiety expressed at the cost per boy, and particularly the "new instrument", and then compare what he says with what Infessura says.

Frederick Baron Corvo, Chronicles of the House of Borgia, p. 80, says it was a drink; and quotes Raynaldus. He notes the tendency in those times for every remedy to need the manipulation of distillation, or of coction, or sublimation, before it could acquire all of its true virtues. He states that no contemporary definitely claims that transfusion was done, and cites the following lines of Raynaldus: "ut ex eo (the blood) pharmacum stillicidium chimica arte paratum propinandum Pontifici conficiret." Which may be put into English something like this: "In order that the Quack from this, (the blood) might by chemical art prepare a distillate for a draught for the Pontiff." This was nothing new. The saving virtue of a drink of human blood was no new idea, for in Tertulian, Apol. IX., we find: "Item illi qui munere in arena noxiorum jugulatorum sanguinem recentem (de jugulo decurrentem exceptum) avida siti comitiali morbo medentes hauserunt, ubi sunt?" And this Englished: "Where are those who at the shows in the arena, where men are slaughtered, drank the flowing blood (but not that coming from the throat) with eager thirst, that they might be cured of epilepsy?"

And now how about Stephen Infessura, the man whom all have quoted and whom most have misquoted. What does he say about the story?

In his Diaria Rerum Romanorum, quoted in "Fonti per la Storia D'Italia". Pages 275-276, we have it.

"Interea in urbe nunquam cessaverunt tribulationes et mortes; nam primo tres pueri decem annorum, e venis quorum Iudaeus quidem medicus qui Papam sanum reddi promiserat sanguinem extraxit, incontinenti mortui sunt.

"Dixerat namque Iudaeus se ville sanare Pontificem, dummodo habere posset certam quantitate sanguinis humani et quidem juvenis; quem propterea extrahi jussit a tribus pueris, quibus post flebotomiam unum ducatum pro quodlibet donavit; et paulo post mortui sunt. Judaeus quidem aufugit, et Papa sanitus non est."

And in plain English, this is what he has to say about it all: "Nevertheless the deaths and distress in no wise ceased, for first three boys of ten years of age from whose veins, a certain Jewish physician, who had promised to save the pope's life, drew the blood; died incontinently. For the Jew said that in order to cure the Pontiff, it was necessary to have a certain quantity of blood, and that it must be drawn from young people, for which reason, it was ordered to be drawn from the veins of three boys, to each of whom, after the phlebotomy, a ducat was given, and shortly after they all died. The Jew of course fled, and the Pope was not cured."

There is in this no assurance that the Holy Father ever received either the transfusion, or a drink. There is nothing in regard to any new in-

strument, no account of any air embolism, nothing whatever from which either conclusion may with certainty be drawn. In view of the state of knowledge of the blood "flow and ebb", it is hardly probable that there was any interchange of blood between the Pope and the boys, or that anything like a transfusion was accomplished. It only remains to investigate as to what was accomplished, and the total seems to be that there was a Pontiff, that there was a quack doctor, (a pharmacus), that there were three boys, that they were bled, that they were each paid one ducat, but had no time in which to spend it, that they died, that the "Judaeus aufugit" and that if this was the case, probably the Pontiff did not get his drink, for the "pharmacus" did not tarry to confect it.

The choice of opinion is open to the reader. The Pope died.

(I am indebted to Dr. Edward C. Streeter of Boston for references in this chase after a phantasm.)

ABSTRACTS

DISEASES OF THE RETINA. Leber, Th., Professor, Heidelberg, Graefe-Saemisch-Hess, Handbuch der gesamten Augenheilkunde, 2nd., entirely new, edition. Nos. 233 to 236. 320 pp. with 40 illustrations in the text and one lithographic plate. Leipzig and Berlin. 1914. Subscription 8 M., $2.00. As indicated in our review of the preceding numbers of this eminent work, Leber discusses here very exhaustively embolism of the central retinal artery and its branches, viz., the ophthalmoscopic phenomena, disturbances of the color sense, if the function of a portion of the visual field is not entirely abolished, amaurotic attacks by transitory embolism, bilateral occurrence of embolism, complications with other affections of the eye, pathological anatomy, behavior of the retinal vessels, alterations of the tissue of the retina and of the optic nerves, experimental investigations, subsequent disturbances of circulation, diseases giving rise to the formation of emboli and complications with other diseases, as embolisms of various other organs, chorea, and without detectable cause, influence of age and sex, special forms of embolism, e. g., by fat, paraffin, and air, diagnosis, prognosis and treatment.

The next chapters deal with spasms of the retinal arteries, migraine and scintillating scotoma, etc., ischemia in consequence of injury of the central artery, by pressure, thrombosis of orbital origin, profuse loss of blood and weakness of the heart. One hundred pages are devoted to thrombosis of the central retinal vein in analogously arranged chapters.

Numerous clinical histories of cases observed by the author and from literature are interwoven in the admirable treatise, and a very complete bibliography is added.

C. ZIMMERMANN.

ATLAS TO THE EMBRYOLOGY OF THE HUMAN EYE. By the late L. Bach, Marburg, and R. Seefelder, Leipzig. No. 3, pp. 75 to 148, with 28 figures in the text, and 16 lithographic plates. Leipzig and Berlin. Wilhelm Engelmann, 1914, 22 M., $5.50.

In previous reviews of Nos. 1 and 2 of this monumental work the novel features of the atlas were pointed out, viz., a presentation of an uninterrupted series of all phases of the development of the human eye ball from the earliest stages, which had never been attempted before. No. 3 contains an exhaustive discourse by R. Seefelder on the development of the sclera, Tenon's capsule, the vascular system of the eye, first the system of the hyaloid artery, its relations to its surroundings within the stem of the optic nerve and the vitreous chamber, and the obliteration of the hyaloid artery and its glious sheath, then the vascular system of the chorioid, and of the optic nerve and retina, and finally the development of the retina, optic nerve, and pigment epithelium. The article on the formation of the medullary sheath of the optic nerve is by C. H. Sattler, based on his examinations of 11 fetuses and new born children. The beautiful and exactly executed plates are original illustrations of specimens prepared by Seefelder. A table of contents to all three numbers is inserted in front. Thus the admirable atlas and treatise represent a splendid original modern work, giving a complete, also with regard to the plates, exposition of the embryology of the human eye. Paper and print are of superior quality.

C. ZIMMERMANN.

A METHOD OF TESTING THE COLOR SENSE WITH VARIABLE PIGMENT-COLOR EQUATIONS ON REVOLVING DISCS. Helmbold, Dr., Danzig. 12 pp. of explanatory text and color discs in cartoon. Wiesbaden, J. F. Bergmann, 1914, 9 M., $2.25. H. devised a test, in which he increased the number of confusion colors so far that as much as possible all disturbances of the color sense are considered. Each of two discs of 18 cm. diameter, which from its back can be revolved around its center, contains concentrically to its circumference 58 small colored discs of 6 mm. diameter at intervals of 3 mm., of the confusion colors, selected according to Stilling, Nagel, Holmgren's, Daae and the author. The borders of the large discs are 4 mm. apart and allow by revolving to compare each color of one disc with each of the other disc. By a white cover with two corresponding openings only two colors, to be compared, are simultaneously visible. The small discs are numbered for recording the respective color equations. If any of the confusion colors are pronounced equal, a disturbance of the color sense is proven. The accompanying text gives a detailed explanation and directions how the examination is to be made. On account of the great number of possible equations, the probability of overlooking an anomaly of the color sense is slight. So far the author had no failure. The apparatus will be welcomed as a very useful addition to the armamentarium of every physician who has to make color tests. It may be obtained from the publisher, J. F. Bergmann, Wiesbaden, Germany.

C. ZIMMERMANN.

THEODORE J. REDELINGS, M. D.,

PRESIDENT STATE MEDICAL SOCIETY OF WISCONSIN.

1914-15.

Dr. Theodore John Redelings of Marinette, who was elected president of the State Medical Society of Wisconsin at the Sixty-eighth Annual Meeting held at Oshkosh, October 7-9, 1914, was born in Chicago, January 29th, 1863. His preliminary education was obtained at the Notherwestern Academy, Evanston, Ill., and at the Danville Normal School, Danville, Ill. In 1887 he was graduated from the Medical Department of Northwestern University, Chicago, and went to Marinette to begin his practice. He has resided there continuously since that time except for a year and a half spent in study abroad in 1890 and 1891.

Dr. Redelings was Health Commissioner of Marinette from 1899 to 1903 and during his administration the purification of the city's water supply was accomplished.

Dr. Redelings has been president of the Menominee River Medical Society, the Fox River Valley Medical Society, the Marinette County Medical Society for four terms, and he has served the State Medical Society as Councilor for the Eighth District for six years.

He was married to Margaret E. Brown of Chicago, September 7th, 1886, and their only living child is Leslie Hall, born March 12, 1888.

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EDITORIALS

THE ANNUAL MEETING.

The Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin was one long to be remembered by all those who were fortunate enough to be present. In the first place it was a very large meeting, the largest in point of attendance that has ever been held outside of Milwaukee. The registration list showed 435 names on the morning of the last session and there were some arrivals even after that time.

In the next place it was one of the best meetings we have ever had. The Program Committee is entitled to much credit for the large amount of extremely interesting material they had provided. The Annual Address in Medicine by Dr. Frank Billings of Chicago, and the Annual Address in Surgery by Dr. A. R. Colvin of St. Paul, were both of unusual merit and of great practical interest and value.

The papers by our other guests Dr. E. C. Rosenow of Chicago, Professor J. R. Commons of the University of Wisconsin, Mrs. Katherine L. Van Wyck, Secretary of the Associated Charities of Milwaukee, and the Hon. A. C. Umbreit of Milwaukee, were all of a high order of excellence and were different from the ordinary run of medical meeting papers.

As for the address by Dr. Victor C. Vaughan, President of the American Medical Association and that by Dr. Alexander R. Craig, its Secretary, our only regret is that they had to be placed at the end of the program and so came at a time when many of the members had left. They were splendid and inspiring and would have been helpful to every member of the Society. We hope to have the privilege of presenting them to our readers in a short time.

It is impossible to mention in detail all the good features of the program. All of it was good, although, of course, some parts were better than others.

The spirit of the meeting was fine. All united in honoring our president for the past year, Dr. C. S. Sheldon, who owned up to seventy-two years in his Annual Address which appears in this number of the Journal, but who is growing younger all the time. His genial and affectionate spirit prevaded the meeting from beginning to end, so it is no wonder that harmony prevailed throughout.

The election of Dr. T. J. Redelings of Marinette to the presidency for the coming year is a merited reward for long and faithful services. Dr. Redelings has worked hard for the interests of the State Medical Society as Councilor for the Eighth District and his election has brought forth universal commendation.

It would not be fitting to end this article without making mention of Oshkosh and of the hospitality of its medical men and women and its citizens in general.

No time or labor had been spared by those who had charge of the arrangements to make the meeting a success. The place of meeting was splendidly adapted for the purpose. Everything that

could be thought of was provided. The arrangements for the commercial exhibit were convenient and yet not obtrusive.

The entertainments were really entertaining and everybody had a good time. The medical profession of Oshkosh and their friends outside of the profession have surely earned the hearty thanks of the State Medical Society of Wisconsin.

The next meeting will be held in Milwaukee.

THE MEETING OF THE WISCONSIN EYE, EAR, NOSE AND THROAT SPECIALISTS.

The First Annual Meeting of the Wisconsin Eye, Ear, Nose and Throat Specialists under the auspices of the Milwaukee Oto-Ophthalmic Society was held at the Athern Hotel and St. Mary's Hospital in Oshkosh, Wisconsin, on October the 8th and 9th, 1914.

The meeting was a great success in every way. The twelve papers presented proved to be of great interest and the discussions were many and valuable. The clinical work at St. Mary's Hospital occupied the morning of the second day of the meeting and was well attended.

Dr. H. S. Gradle of Chicago, operated upon a case of glaucoma, and Dr. Joseph C. Beck of Chicago, demonstrated the new suspension apparatus of Killian's and also performed his operation for the removal of tonsils.

The Society is extremely fortunate in obtaining the services of such prominent men as Dr. Beck and Dr. Gradle.

There were forty-five specialists in attendance and this is a very good showing for the first meeting.

The papers read are to be published during the year in the Wisconsin Medical Journal, as far as possible.

ANOCI-ASSOCIATION.

A study of surgical shock which was begun by Crile in 1893 and is still continuing has led him to the conclusion that shock is a condition of exhaustion in the cells of the brain, the suprarenals, and the liver resulting from the conversion of potential energy into kinetic energy at the expense of certain chemical compounds stored in the cells of the brain, the suprarenals, and the liver.

This excessive conversion of potential into kinetic energy takes place only in response to adequate stimuli, but the character of the stimulus may be greatly varied.

"Shock or exhaustion, therefore, may be produced by diverse causes, such as fear, worry, physical injury, infection, hemorrhage, excessive muscular exertion, starvation, insomnia. We shall present evidence that all of these conditions cause physical alterations in the cells of the brain, the suprarenals, and the liver, that these physical changes are identical, whatever their cause; and that those cells which reach a certain degree of alteration cannot be restored, but go on to annihilation. The histologic changes in the brain, the suprarenals, and the liver may be caused by emotion alone, by physical injury alone, by hemorrhage alone, by starvation alone, by insomnia alone; or these changes may be started by emotion, carried a step further by muscular exertion, another step by physical injury, another by hemorrhage, and so on until they are destroyed; or all of these factors acting simultaneously may produce the same disastrous result. There is no miscroscopical evidence of specificity in the effects of these various factors; that is, no one could look at an altered brain-cell, suprarenal cell or liver cell under the microscope and be able to state the cause of its structural change. These changes in shock and exhaustion from any cause whatsoever seem to be identical."

"The kinetic theory of shock, as has already been indicated, postulates that all forms of shock are caused by over-stimulation and consequent exhaustion; that the cells of the brain, the suprarenals, and the liver show physical changes corresponding to each change in the clinical cycle of shock; that each shock-producing agency causes in the cells of the brain a hyperchromatic stage followed by a hypochromatic stage."

The experimental work reported by Crile and Lower in their recently published work on Anoci-Association, from which we have just quoted, appears to show conclusively that the use of a general anesthetic in surgical work does not protect the brain cells from this effect of trauma. "The afferent path from the seat of injury being unbroken, the afferent stimuli reach and modify the brain-cells as readily as if no anesthetic had been given, and it would seem that the brain-cell changes must be due to the discharge of energy in a futile effort to escape from the injury."

From a comparative study of the effect upon

the brain-cell changes of operations under different anesthetics the authors have come to the conclusion that as these changes are less marked under nitrous-oxid-oxygen that under ether, the former should be the inhalation anesthetic of choice.

In summing up the Kinetic Theory of Shock Crile states: "There is a group of organs whose function is the conversion of potential into kinetic energy. These organs form what may therefore be designated a Kinetic System. Among the organs forming this system are the brain, the thyroid, the suprarenals, the muscles and the liver. The Kinetic System converts latent energy into motion or heat in response to adequate stimuli. If the stimuli are overwhelmingly intense, then the Kinetic System—especially the brain—is exhausted, even permanently injured. This condition is acute shock. If the stimuli extend over a period of time and are not so intense as to cause an immediate breakdown or acute shock, their repetition may cause the gradual exhaustion of the Kinetic system—a condition which may be called chronic shock. Either acute or chronic shock may be measurably controlled by weakening or breaking the kinetic chain at any point.

"In other words, shock is the result of an intense stimulation of the Kinetic System,—by physical exertion, emotion, trauma, toxins, anaphylaxis, strychnia, etc.—which leads to physical changes in the Kinetic System and which if carried far enough exhausts that system. The Kinetic System is constantly activated as long as there is life, but normal activation does not produce exhaustion. If normal activity of the Kinetic System be exemplified by walking, shock might be exemplified by the exhaustion caused by a Marathon race. The difference between normal processes and shock is that of intensity, not of kind. From these premises it becomes obvious that the exclusion of both traumatic and emotional stimuli will wholly prevent the shock of surgical operations."

In the treatment of shock Crile recommends as most effective morphine and transfusion, but the great interest of the authors of the work under consideration is in the prevention of shock by the method of anoci-association,—the exclusion from the brain of all harmful physical and psychic stimuli.

The technique of this method recognizes the importance of the emotional factor in producing shock, so it does not limit itself to the conduct of the operation alone but gives due attention to the preoperative environment and to the postoperative management of the case.

"By an assuring preoperative environment; by the definite dulling of the nerves through the administration of a narcotic; by a non-suffocating odorless inhalation anesthetic; by a local anesthetic to cut off all afferent impulses during the course of the operation; by a second local anesthetic of lasting effect to protect the patient during the painful postoperative hours; by gentle manipulation and sharp dissection,—by the combination of all these methods,—the patient is protected from damage from every factor excepting those which exist in the diseased condition from which relief is sought."

The methods which have been devised by the authors for carrying out the technique of the method of anoci-association are simple and logical. Their summing up of the whole situation is impressive in its directness.

"We have shown that the physical exhaustion is the result of demonstrable changes in certain kinetic organs—notably the brain, the suprarenals, and the liver, and that these changes are due to an adaptive response of the organism to the injury—a silent, motionless effort to escape from the physical injury of the operation, and that therefore if the field of operation be blocked by local anesthesia, or if the nerve connection between the brain and the injury be blocked, physical injury alone can cause no shock. We have shown that the motor mechanism may be powerfully driven by psychic stimuli—perhaps as powerfully as by traumatism and physical exhaustion—and that corresponding changes are produced in the organs of the kinetic system. We have seen that when both the traumatic and the psychic stimuli are excluded shock cannot be produced. We have found that the essential pathology of shock is identical whatever its cause. That is, when the kinetic system is driven at an overwhelming rate of speed—as by severe physical injury; by intense emotional excitation; by perforation of the intestines; by the sudden onset of an infectious disease; by an overdose of strychnia; by a Marathon race; by foreign proteids; by anaphylaxis—the result of those overwhelming activations of the kinetic system is a condition which is identical however it may be clinically designated, whether as surgical or traumatic shock, toxic shock, anaphylactic shock, drug shock, etc.

"As a result of the acceptance of this theory an

operative method has been evolved by means of which shock is minimized or eliminated according as the principal of anoci-association is partially or completely applied.

"The practical value of anoci-association is attested by the fact that in the authors' clinic both the mortality rate and the postoperative morbidity have been reduced by the applicaton of this principle.

"Were it possible to add to the surgeon's experience an expression of the subjective symptoms of the patient, the proof of the value of anoci-association would be even more striking. There is no longer any need of the postoperative recovery room; the work of the nurses is lessened; and the clinical aspect, both in and out of the operating room, is altered.

"To achieve these results means a thorough understanding of the principle on which the technique is founded; it necessitates the intelligent and special training of assistants, internes, anesthetists, hospital officials, and nurses; it means a careful hand and a sharp scalpel; it presupposes a mind free from dogma and tradition; it means that no detail is too petty for the careful attention of the surgeon himself. Above all it means that from the patient's first appearance in the surgeon's consulting room throughout the entire cycle of hospital entrance, operation, and exit from the hospital there must be no sharp points of contact, either psychic or physical.

"If performed perfunctorily, as a dull ritual, the technique of anoci-association will fail; it can accomplish its purpose only when each detail, however minute, is considered from the viewpoint of the individual patient."

The work which has been done by Crile and his associates constitutes one of the notable achievements of American surgery.

A NEW PHYLACOGEN.

When commercial greed is locking horns with scientific facts and wishes to prove its case scientifically (sic) it seems easy to collect much so-called proof. Reports of several hundred cases successfully treated by several hundred physicians impress certain minds as having the same weight in evidence as fifty cases treated by one man with all the necessary controls. Verily judgment is difficult.

The very latest style in therapeutics is Typhoid Phylacogen featured in Therapeutic Notes, September, 1914. "This preparation consists of a culture filtrate of the Bacillus Typhosus, ——— combined with an equal volume of the basic or Mixed Infection Phylacogen." "Reports have been made on the Phylacogen treatment of typhoid fever in 310 cases, with recovery in 283, or 91 per cent." This is recommended subcutaneously or intravenously. It is well to remember that basic phylacogen is composed of the filtrates from the growth of five or six bacteria, such as colon, staphylococci, streptococci, etc. Now to get down to actual facts, we have known for a long time that the typhoid bacillus produces a specific toxin only when the bodies of the bacilli are crushed. An enormous amount of work has been done in an endeavor to produce a typhoid toxin in an bouillon culture which will cause immunity in injected animals. *It has never been done.* One does, however, get protein toxins which are not specific for typhoid infection, that is to say these toxins cannot produce immunity to typhoid infection.

If physicians are to be instructed in modern therapeutics by sales-agents of commercial firms then it seems time for us to close up our medical schools and send the students to school in drug and serum manufacturing houses.

NEWS ITEMS AND PERSONALS

Dr. Richard Dewey, for the convenience of those wishing to consult him, has taken an office in the Goldsmith Building, Milwaukee. Arrangements can here be made for any one wishing to advise with him with respect to treatment at the Milwaukee Sanitarium.

Office hours: Mondays, Thursdays and Saturdays from 9-12 A. M.

Dr. Dewey will continue as heretofore his office in Chicago at the new Marshall Field Annex Building, Washington Street and Wabash Avenue, Wednesday from 1-3 P. M.

Dr. W. F. Lorenz, on the staff of the Mendota Hospital for the Insane, has returned from the six months' study of pellagra in the south.

Dr. W. G. Sexton, recently chief surgeon of the Hebrew Hospital of Baltimore, has returned to Marshfield, and associated himself in practice with Dr. Karl Doege.

Judge Kerwin has ruled that Manitowoc has no legal health officer. Both Drs. Meany and Staehle claim the title and the former sought to issue a temporary injunction restraining Dr. Staehle from interfering in his affairs. The court ruled that neither has been officially named.

Dr. Arnold Mueller, formerly of Manitowoc, now of McHenry, Ill., has sailed for Holland to engage in the service of the Red Cross in the European War.

Dr. R. J. Elliott, first assistant surgeon at the National Soldiers Home, Milwaukee, was on September 3rd elected surgeon general of the United Spanish War Veterans at its convention in Louisville.

Dr. Walter H. Neilson, a practitioner of medicine in Milwaukee for thirty-three years observed the fifty-seventh anniversary of his birth on September 4th.

Dr. F. J. Pfeifer, New London, has returned from Europe.

The request of physicians and hospital workers, that Milwaukee County appropriate $5,000 to make a survey of hospital conditions in the county, was denied by the county board committee on Sept. 8th.

Drs. E. H. Grannis and Irving V. Grannis have formed a partnership at Menomonie.

Dr. A. J. Ochsner, of Chicago, underwent a second operation in the hospital of the Good Shepherd, Syracuse, N. Y., Oct. 3, for an infected arm. The doctor pricked a finger on his left hand while performing an operation in Chicago.

Dr. Louis Schapiro, Milwaukee, has been offered the position of chief health officer for the Rockefeller sanitary commission in Costa Rica.

Dr. Paul F. Clark, associated with Dr. Simon Flexner of the Rockefeller institute of medical research, has been named to succeed Dr. M. P. Ravenel as associate professor in charge of the bacteriological courses at the University of Wisconsin.

Dr. P. H. Jobse, Milwaukee, will return from Wilsonville, Oregon, and resume his practice on November 1st, 1914.

Dr. T. J. Redelings of Marinette was the guest of honor at a banquet given at Marinette by the Marinette-Florence County Medical Society and the Menominee (Michigan) County Medical Society, to celebrate his election to the presidency of the State Medical Society of Wisconsin.

Twenty-two physicians from the three counties were present.

The Travel Study Club of American Physicians, which made a successful Study Tour of Europe last year, has completed the plans for its 1915 Study Tour to the A. M. A. meeting in San Francisco, Honolulu, Japan, The Philippines, China, with optional return via Siberia and Europe (war permitting), or via Canada. This being the first party of American Physicians ever visiting the Far East and the new possessions of the United States, a most cordial welcome can be expected by authorities and members of the medical profession. The Travel Study Club would like to make its enterprise as representative as possible and asks all those interested to communicate with the Secretary, Dr. Richard Kovacs, 236 East 69th Street, New York.

At the Third Annual Meeting of Alienists and Neurologists of the U. S. held under the Auspices of the Chicago Medical Society, for the purpose of discussing Mental Diseases in their various phases, July 13-17, 1914.

The committee on "Alcoholism as a Causative Factor of Insanity" reported the following resolutions, which were unanimously adopted:

"*Whereas*, In the opinion of the meeting of Alienists and Neurologists of the United States in convention assembled, it has been definitely established that alcohol when taken into the system acts as a definite poison to the brain and other tissues; and

"*Whereas*, The effects of this poison are directly or indirectly responsible for a large proportion of the insane, epileptics, feebleminded, and other forms of mental, moral and physical degeneracy; and

"*Whereas*, The laws of many states make alcohol freely available for drinking purposes; and therefore cater to the physical, mental and moral degradation of the people; and

"*Whereas*, Many hospitals for the insane and other public institutions are now compelled to admit and care for a multitude of inebriates; and

"*Whereas*, Many states have already established separate colonies for the treatment and re-education of such

inebriates, with great benefit to the individuals and to the commonwealths.

"*Therefore, Be It Resolved,* That we unqualifiedly condemn the use of alcoholic beverages and recommend that the various state legislatures take steps to eliminate such use; and be it further

"*Resolved,* That we recommend the general establishment by all states and territories of special colonies or hospitals for the care of inebriates; and

"*Resolved,* That organized medicine should initiate and carry on a systematic persistent propaganda for the education of the public regarding the deleterious effects of alcohol; and

"*Be It Further Resolved,* That the medical profession should take the lead in securing adequate legislation to the ends herein specified."

At the Third Annual Meeting of Alienists and Neurologists of the U. S. held under the auspices of the Chicago Medical Society, for the purpose of discussing Mental Diseases in their various phases, July 13-17, 1914.

The committee on "Syphilis as a Causative Factor of Insanity", reported the following resolutions, which were unanimously adopted:

"*Whereas,* Syphilis is responsible for a large percentage of all insanity and mental deficiency.
"*Be It Resolved That:*

"*First:* Health Departments (Municipal and State) should be equipped to make laboratory examinations for Venereal Diseases.

"*Second:* All Hospitals for the Insane should be equipped to make laboratory examinations for Venereal Diseases.

"*Third:* Hospitals and Dispensaries for the treatment of Venereal Diseases should be provided.

"*Fourth:* Physicians should be compelled by law to report cases of Venereal Diseases, as is now done in other contagious diseases.

"*Fifth:* Applications for marriage should be required to furnish health certificates.

"*Sixth:* Lectures and Bulletins should be offered freely to the Public regarding Venereal Diseases.

"*Seventh:* Newspapers should be requested to use their best influence to educate the people concerning Venereal Diseases.

"*Eighth:* Sex Hygiene should be taught in the Public Schools, above grammar grades, to the sexes separately."

REMOVALS

Dr. O. W. Joslin, Linden, to Dodgeville.

Dr. L. W. Egloff, Elkhart Lake to Pewaukee.

Dr. Otto Sporleder will locate at Reedsburg.

Dr. Alfred Busse, Milwaukee, has removed to Jefferson, where he succeeds the late Dr. Cox.

Dr. T. B. Haas, of Trenton, N. J., has located at Tomahawk.

Dr. J. M. Lapierre, of Buckingham, Quebec, has opened an office at Bloomer.

Dr. J. W. Ehmer, Lomira has disposed of his practice to Dr. L. H. Flancher of New Butler. Dr. Ehmer has not decided on a new location.

MARRIAGES

Dr. Wm. T. Flatley, Kenosha and Miss Rose Agnes Cleary, Minneapolis, September 22nd.

DEATHS

Dr. Solon Marks, a resident of Milwaukee for sixty years or more died on September 29th, aged 87 years. Solon Marks was born at Stockbridge, Vermont, and was educated at the Royalton Academy. He came to Wisconsin in 1848, and entered Rush Medical College, Chicago, graduating in 1853. He practiced before the war at Jefferson and Stevens Point. At the beginning of the war he volunteered his services, and was appointed surgeon of the Tenth Wisconsin Regiment. He served throughout the war, returning to Milwaukee in 1865, and taking up his practice which he continued until eight or ten years ago, when a fall so seriously injured one of his hips that he had been laid up ever since. Cancer of the face added greatly to his discomfort. Dr. Marks was a member of the Military Order of the Loyal Legion, the Old Settlers Club, the American Medical and Surgical Associations, Milwaukee County and the State Medical Societies.

Dr. D. H. Lamb, a practicing physician in Tomahawk from about 1892 to 1895 died on August 5 at Owosso, Mich.

Dr. Neal Wier, one of the pioneer residents of Tomah, died suddenly on August 28 of a stroke of paralysis, aged 65 years. He was a resident of Tomah for 40 years.

Dr. John Schwenderer, Milwaukee, died on August 31, aged 67 years. Dr. Schwenderer was a graduate of the Northwestern University Medical School in 1878. He was a member of Milwaukee County and the State Medical Societies.

Dr. Martin Joyce, Waterloo, died at the West Side Hospital, Chicago, on September 6th, following an operation for appendicitis. Dr. Joyce was born on November 25, 1878, and graduated from the Waterloo High School June 23, 1898. He then attended the Illinois College of Physicians and Surgeons, and graduated from that institution February 5, 1903. He was married on August 15, 1902, in Chicago to Miss Gertrude Costello. Dr. Joyce had practiced for nine years at Harvey, N. D., and for the last two years was located at Waterloo. He was a member of the Jefferson County and the State Medical Societies.

Dr. L. M. Trulson, Stoughton, died on September 5, 1914, of Bright's Disease. Louis M. Trulson was born in Janesville, August 22, 1873. After graduating from the high school, he attended Beloit College for one year, and then took up the study of medicine at the Northwestern University Medical College, Chicago, from which institution he was graduated in 1898. In 1898 he enlisted in Co. D, 1st Illinois Cavalry, and was assigned to the medical corps. During the summer he was stationed at Chattanooga, and while there contracted a severe attack of typhoid. In 1899 he established himself in practice in Stoughton, and resided there up to the time of his death. Member Dane County and the State Medical Societies.

Dr. Max Hartwig, Port Washington, was instantly killed on September 10th, when his automobile turned turtle. Max Hugo Hartwig was born April 21, 1865, at Port Washington. He was the youngest of five children of Dr. and Mrs. Theodore Hartwig. He was a graduate of the Detroit, Michigan, high school, and shortly after his graduation became a pharmacist, and for several years followed that occupation at Milwaukee. In 1886 he graduated from the Detroit College of Medicine. In 1889 he removed to Port Washington, where he practiced for three years in partnership with his father, later continuing the practice alone.

Dr. B. E. McShane, Milwaukee, died on September 19, 1914, aged 44 years. Bernard E. McShane was born November 3, 1870, at Muskegon, Wis. He graduated from the College of Physicians and Surgeons in Chicago, in 1895, practiced for several years at Hales Corners, and then came to Milwaukee. Several years ago he was obliged to go west for his health, and for a number of years practiced at Alton, Kansas. About six months ago he again removed to the west because of his health, and returned to Milwaukee three weeks before his death. Member Milwaukee County and the State Medical Societies.

Dr. N. Z. Wagener, Sturgeon Bay, died suddenly on October 3rd, of pneumonia, following an operation for appendicitis, aged 41 years. Dr. Wagener was a graduate of Northwestern University Medical School, Chicago in 1904, and was a member of Door County and the State Medical Societies.

Dr. Leon G. Lewis, assistant surgeon of the National Military Home at Dayton, Ohio, formerly of West Allis, died on October 2nd of typhoid fever, aged 27 years. He was a graduate of Hahnemann Medical College, Chicago, 1910.

BOOK REVIEWS

ANOCI-ASSOCIATION. By George W. Crile, M. D., Professor of Surgery, School of Medicine, Western Reserve University, Cleveland; and William E. Lower, M. D., Associate Professor of Genito-Urinary Surgery, School of Medicine, Western Reserve University, Cleveland. Octavo of 259 pages, with original illustrations. Cloth, $3.00, net. W. B. Saunders Company, Philadelphia and London, 1914.

In this volume are presented in Part I a statement of the Kinetic Theory of Shock and the principle of Anoci-association, together with a summary of a long series of experiments reported in part in Crile's earlier monographs, and in Part II the application of the Kinetic Theory to the technique of surgical operations.

This work is one of intense interest to every physician whether he be interested in surgery or not. It is written in a manner which deserves high praise for its clearness and the illustrations are numerous and, what is more, they really illustrate.

The Theory of Shock which the authors present in a convincing manner is most interesting and the medical man will receive suggestions from their ideas which will throw light upon both the origin and the treatment of many morbid conditions, psychical and medical as well as surgical. In Part II on the Treatment of Shock and its Prevention Through Anoci-Association, the practical application of this theory to surgical practice is described with great clearness and in sufficient detail.

This book is one which should be read by every physician who is doing surgical work of any kind and we can recommend it highly even to those whose work is purely medical.

DIETETICS: OR FOOD IN HEALTH AND DISEASE. By William Tibbles, LL. D., M. D., L. R. C. P., M. R. C. S., L. S. A. Medical Officer of Health, Fellow of the Royal Institute of Public Health, etc. Octavo, 627 pages. Cloth, $4.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

The importance of the subject of Dietetics is by no means over-emphasized by the author of this volume when he says in the introduction: "I deem it of such importance to mankind that I would there were appointed a Professor of Dietetics in every University and Medical College throughout the world, and that this subject should be given the same prominence in the curriculum of the medical student which is given to materia medica and therapeutics. In all colleges of agriculture prominence is given to the study of animal and plant foods. If such knowledge is deemed of importance to the breeder of animals and the grower of grain or fruit, surely it is no less so to the physician who has the care of the human body. Indeed, I have no hesitation in saying that the study of dietetics and its practical application would benefit 50 per cent. of the physician's clients when they are sick, and is no less important as a branch of preventive medicine."

In this complete and well arranged work the author takes up the consideration Food Values and Tables of Composition of Foods, Digestion and Absorption of Foods, Heat Value and Digestibility of Foods, Metabolism, Amount of Food Required, Feeding of Infants and Children, Food in Old Age, Special Diets, under which are considered in detail such important subjects as vegetarian, fruit, meat, and milk diets, purin-free diet, fat-free diet, carbohydrate-free diet, salt-free diet, dry diet, and many others which have a direct interest for the practicing physician.

In the second section of the book the subject of dietetics is considered under the headings of the various pathological conditions, as Diseases of the Stomach, Intestines, Liver, etc., Gout and Rheumatism, Obesity, Diabetes, Diseases of the Blood and Circulatory Organs, of the Respiratory Organs, Tuberculosis, Fevers and the Fever Diet, and the book ends with an interesting chapter on the Vitamines and the Deficiency Diseases, such as scurvy, beri-beri, and perhaps pellagra.

The book is written by an Englishman and some of the ideas will seem a little unusual to a physician trained in America, as, for instance, the diagnosis of "liver chill," but these occasional surprises do not detract from the solid value of the work itself.

In the chapter on Fevers the value of high calorie feeding in typhoid is not given as much prominence as it would be by an American author of today and the work of Coleman and Shaffer on this subject is not mentioned. But taken as a whole this book is of unquestioned merit and forms a valuable addition to the small group of really good works on the important subject of Dietetics. Its welcome should prove a warm one.

PRACTICAL MEDICINE SERIES. Vol. 4, Series 1914. Gynecology, edited by Emilius C. Dudley, A. M., M. D., and Herbert M. Stowe, M. D., Chicago. 220 pages. Price, $1.35.

Vol. 5, Pediatrics, edited by Isaac A. Abt, M. D.; Orthopedic Surgery, edited by John Ridlon, A. M., M. D., and Charles A. Parker, M. D., Chicago. 224 pages. Price, $1.35.

Vol. 6, General Medicine, edited by Frank Billings, M. S. M. D., and J. H. Salisbury, A. M., M. D., Chicago. 346 pages. Price, $1.50.

These volumes of a handy size and attractively arranged for the student and busy practitioner, are replete with suggestions of the best practice of the day. The material of the volumes consists almost entirely of abstracts of important recent articles, in each case giving the reference to the original article. The ground is covered with great thoroughness, so that these books present in condensed form what has been done during the year that is really good.

By means of this excellent series of books it is possible for the general practitioner to keep in touch with medical progress in all its directions, an undertaking which the growth of medical literature has rendered an impossibility without such an aid. The judicious editorship of the entire series and of the individual volumes eliminates most of the superficial and unsound in current medical literature and presents the articles of real value in a form full enough for satisfactory use.

For the busy general practitioner, who desires to keep moving with the current of progress, this series will prove most helpful.

MANUAL OF SURGERY. By Alexis Thomson, Professor of Surgery, University of Edinburgh, Surgeon Edinburgh Royal Infirmary, and Alexander Miles, Surgeon Edinburgh Royal Infirmary, Vol. III, Operative Surgery, Second Edition, pp. 599, with 255 illustrations. Price, $3.50. Oxford University Press, 35 West 32nd Street, New York, Publishers, 1913.

This little volume is certainly one of the best of its kind that has appeared in the English language in recent years. As the title implies it is not intended to be a complete surgical treatise and is therefore necessarily brief. Perhaps its brevity is one of the most commendable features. The subject matter is treated in a manner characteristic of the balance and soundness of the authors.

PRINCIPLES OF SURGERY. By W. A. Bryan, A. M., M. D., Professor of Surgery and Clinical Surgery at Vanderbilt University, Nashville, Tenn. Octavo, 656 pages with 224 illustrations. W. B. Saunders Co., Philadelphia, Publishers, 1913.

The attitude of the author in approaching his subject must at once appeal to those who desire a concise, readable exposition of the Principles of Surgery. To bring a work of such broad scope into a small volume, the subject matter is necessarily treated very briefly. This little book will doubtless appeal to those in other lines of work as much as to surgeons.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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TERM EXPIRES 1919
5th Dist., W. F. Zierath - Sheboygan
6th Dist., H. W. Abraham - - Appleton

TERM EXPIRES 1920
7th Dist , Edward Evans - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1915
9th Dist., T. H. Hay - Stevens Point
10th Dist., R. U. Cairns - - River Falls

TERM EXPIRES 1916
11th Dist., J. M. Dodd - - Ashland
12th Dist., H. E. Dearholt - Milwaukee

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A. H. LEVINGS, Milwaukee
J. F. PEMBER, Janesville
J. M. DODD, Ashland

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Committee on Arrangements

H. W. MORGENROTH, Oshkosh, Chairman

NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER, 1915.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	George Harrison, Ashland
Barron-Polk-Washburn-Sawyer-Burnett	B. N. Webster, Rice Lake	E. R. Hering, Shell Lake.
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Chippewa	C. A. Hayes, Chippewa Falls	A. L. Beier, Chippewa Falls.
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Door	H F. Eames, Egg Harbor	T. C. Proctor, Sturgeon Bay.
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Fond du Lac	D. J. Twohig, Fond du Lac	H. C. Werner, Fond du Lac.
Grant	S. W. Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	W. J. Pearce, Dodgeville	H. D. Ludden, Mineral Point.
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Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	H O. Shockley, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	Joseph F. Smith, Wausau	R. W. Jones, Wausau.
Marinette-Florence	T. J. Redelings, Marinette	R. R. Heim, Marinette.
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Monroe	L. G. Sheurich, Tomah	Spencer D. Beebe, Sparta.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
Outagamie	J. R. Scott, Appleton	F. P. Dohearty, Appleton.
Pierce	D. C. Munger, Ellsworth	R. U. Cairns, River Falls.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	E. A. Richy, Park Falls	G. H. McClure, Westboro.
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Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center
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Shawano	J. F. Ragan, Gresham	H. J. Calkins, Shawano.
Sheboygan	J. A. Junck Sheboygan	Edmund Knauf, Sheboygan
St. Croix	Philip McKeon, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	C. L. Story, Whitehall	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	F. J. Fucik Williams Bay	Edward Kinne, Elkhorn.
Washington	W. J. Wehle, West Bend	S. J. Driessel, Barton.
Waukesha	W. S. Wing Waukesha	S. B. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh
Wood	J. A. Mason, Marshfield	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

BROWN-KEWAUNEE.

One of the most successful meetings in the history of Brown-Kewaunee County Medical Society was held on September 23, 1914, in the office of the president, Dr. W. Weber Kelly, Green Bay. A resolution was adopted requesting the local newspapers to refrain from publishing names of physicians in connection with news items. The idea of organizing a red cross committee was approved, and a committee composed of the president and secretary of the society and three members appointed by the president was authorized. It will be the duty of the committee to co-operate with the national organization in times of calamity. Drs. B. C. Brett and A. W. Slaughter were made honorary life members. Drs. Leaper, Boynton and Latham were elected members of the society. After the business session Dr. Kelly talked on his trip abroad. Dr. Lenfestey of DePere spoke on the three great centers of scientific surgery—Vienna, Berlin and Paris. A banquet was held after the meeting at DeLair's cafe.

FOND DU LAC COUNTY

Fond du Lac County Medical Society held its regular meeting at the Hotel Engelbright, Ripon, on September 9th. The meeting was of a social nature. Green Lake-Waushara County Medical Association being guests of the Society. Dr. G. V. Mears spoke on his European travels. Drs. Rock Sleyster of Waupun and S. S. Hall of Ripon attended the meeting.

GRANT COUNTY

A meeting of the Grant County Medical Society was held at the Country Club, Lancaster, September 24th. After dinner at the Wright House, and a social hour at the Club, the President, Dr. S. W. Doolittle, called the assembly to order. There were present Drs. S. W. Doolittle, J. C. Doolittle, Joseph Godfrey, Rush Godfrey, E. D. Orr, James Orr, J. C. Betz, J. E. Heraty, E. Kraut, M. A. Bailey, N. E. McBeath, E. C. Howell, W. Cunningham, D. L. Brady and M. B. Glasier. Drs. J. C. Hancock and U. S. Lewis of Dubuque, Iowa, and Mr. Otto F. Bradley of Milwaukee were guests of the Society. Dr. J. E. Heraty gave a report of a number of cases of infantile paralysis occurring in his practice, giving treatment and result in each case. In the free discussion which followed many points of interest and benefit were brought out. Some Observations Made in European Clinics, as told by Dr. J. C. Hancock, proved most interesting. The different clinics visited, operators of world wide renown, and operations known to many by report only, were graphically described. As evidence of the enjoyment and appreciation of the Society, a vote of thanks were extended the doctor. Dr. J. C. Betz gave some items of interest from the Clinical Congress, London, thus bringing to those who were not fortunate enough to attend, many interesting accounts of the operators and methods used in other countries. Mr. Otto F. Bradley, assistant secretary Wisconsin Anti-Tuberculosis Association told of the efficiency of the efforts of the Association and requested the members of Grant County Society to use their influence toward establishing a sanatorium in Grant County. A committee consisting of Drs. J. C. Betz, W. Cunningham, E. McDonald, S. W. Doolittle and M. B. Glasier was appointed to further the plan.

The next meeting of the Society will be held in Boscobel. M. B. GLASIER, *Secretary.*

MANITOWOC COUNTY

The Manitowoc County Medical Society held a "Get Acquainted Meeting" at Cato September 10th at which a chicken dinner was served at the "Hotel Cooney." The following doctors were present:

Currens and Farrell of Two Rivers, Meany, Shaw, Shimek, Gleason, Roberts, Barnstein, Folge, Donahue, Luhman, of Manitowoc, Gregory of Valders, Kelly and Gerend of Cato, and Cary of Reedsville.

This is the first county meeting to be held in years and proved a great success.

E. C. CARY, M. D.,
Secretary Pro Tem.

WAUKESHA COUNTY

Members of Waukesha County Medical Society met for the purpose of discussing a prospective plan of conducting the new municipal hospital, and President B. M. Caples appointed a committee to co-operate with the hospital committee of the common council. The society endorsed the plan of placing a trained nurse at the head of the institution and of having five directors to take charge.

SECOND DISTRICT MEDICAL SOCIETY.

The Second District Medical Association, comprising the counties of Racine, Kenosha and Walworth, held a very interesting meeting at the Hotel Geneva, on September 3rd. The principal address of the day was on Diseases of the Stomach by Dr. H. A. Reinhard of Burlington. Dr. G. Windesheim was elected president and Dr. M. V. Dewire was re-elected secretary. The next meeting will be held at Kenosha.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY. SURGICAL ASSN.

More than one hundred surgeons of the northwest attended the annual meeting of the Surgical Association of the Soo Railway, which was held at Ashland on September 8 and 9. Following is the program: "A Resume of the Surgery of Bones and Joints," Dr. V. A. Mason, Marshfield; "The Chronic Abdomen," Dr. F. G. Connell, Oshkosh; "Fracture of the Tibia and Fibula; First Aid, Diagnosis and Treatment," Dr. Albert J. Pullen, North Fond du Lac; "The Importance of Traumatic Surgery in Medical Curriculum," Dr. John M. Dodson, Chicago; "Railway Sanitation of the Present Day," Dr. John D.

Darling, St. Paul; President's Address, Dr. John M. Dodd, Ashland; "Injuries Affecting the Anatomy and Physiology of the Foot," Dr. Frederic J. Patton, Duluth; "Albuminuria Among Enginemen," Dr. M. S. Hosmer, Ashland; "Defense of Mal-practice Suits," Dr. Alexander J. McConnel, Minot, N. D. A clam bake followed the business meeting at Madeline Island.

The following officers were elected for the coming year: President, D. Alexander McConnel, Minot, N. D.; Vice-President, Dr. J. B. Darling, Minneapolis. Secretary-Treasurer, Dr. Rishmiller, Minneapolis; Censor, Dr. L. M. Crafts, Minneapolis. The next convention will be held at Twin Cities.

BOOK REVIEWS

DISEASES OF THE HEART. By John Cowan, D. Sc., M. D., F. R. F. P. S., Professor of Medicine, Anderson's College Medical School; Physician, Royal Infirmary; Lecturer in Clinical Medicine in the University of Glasgow; Examiner in Medicine, Royal Army Medical College. Octavo, 458 pages, with 199 illustrations. Cloth, $4.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

This is an eminently readable and clear statement of the very great advances that in the past ten years have been made in our knowledge of the physiology and pathology of the heart and arteries. It is particularly adapted to advanced medical students and to the intelligent general practitioner, even the so-called practical man will not be disappointed with the remarks on diagnosis, prognosis, and treatment.

The book opens with a chapter on the pathology of the myocardium, this is followed by four chapters on the diseases of the arteries, including one on the treatment of arterio-sclerosis. Then come two chapters, one on the Myogenic theory and one on the Electro-cardiograph, after which there are ten chapters giving an admirable and concise account of various disturbances of the myocardial function, such as extra-systole, heart block, paroxysmal tachycardia, auricular fibrillation, etc. These ten chapters will be especially helpful to those not familiar with the facts obtained by means of the electro-cardiagraph and other instruments of precision. The remaining chapters of the book are divided as follows: three on acute endocarditis, six on chronic valvular disease, and four on the pericardium.

This last group of chapters, thirteen in number, is well done. The treatment is brief and clear, with nothing of importance omitted. Here as elsewhere throughout the book, the sections on etiology, prognosis and treatment are particularly good.

The book is abundantly and well illustrated, and contains also many diagrams, curves and tracings that are really helpful to the reader.

NERVOUS AND MENTAL DISEASES. By Joseph Darvin Nagel, M. D., Consulting Physician to the French Hospital of New York, Member of New York Academy of Medicine, Honorary Member Societe Royal de Belique, etc., Physician to St. Chrysostom's Dispensary. New (2nd) edition, revised and enlarged, 12mo, 293 pages, with 50 engravings and a colored plate. Cloth, $1.00, net. (The Medical Epitome Series.) Lea & Febiger, Publishers, Philadelphia and New York, 1914.

The author has mastered to an unusual degree the art of concise statement, with the result that a surprising amount of essential matter is presented in very full detail. In the process of condensation the tendency is naturally to omit matter which may be of substantial value to the student, but the volume under consideration is singularly free from such omission. The revision has been most complete. Several sections have been practically rewritten and substantially enlarged. Changes in classifications particularly of mental diseases, have brought the epitome into complete accord with the most advanced thought. The plan of presentation is so orderly as to render the vast amount of condensed information presented most readily assimilable. The illustrations are numerous and well chosen, showing characteristic clinical types and chematic presentations of nerve tracts and connections.

AN EPITOME OF PEDIATRICS. By Henry Enos Tuley, A. B., M. D., Late Professor of Obstetrics, Medical Department, University of Louisville; Editor Louisville Monthly Journal of Medicine and Surgery; Late Chairman of Section Diseases of Children, American Medical Association; Ex-President American Association Medical Milk Commissions, etc. New (2nd) edition, revised and enlarged. 12mo, 324 pages. Cloth, $1.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1914. (Lea's Series of Medical Epitomes.)

This volume contains the essentials of the subject as taught by the foremost authors, instructors and specialists, collated and epitomized by the author with marked success. He overlooks no necessary detail in the whole wide subject from birth to adolescence, with ample consideration of the anatomy, development, care and examination of infants, the therapeutics peculiar to that age, the feeding of infants and other children, and the symtomatology, diagnosis and treatment of the various diseases.

Important additions have been made to the chapter on contagious diseases; a valuable chapter on diseases of the skin added; and important additions and modificateions made in the section devoted to infant feeding, certified milk, milk modification, pasteurization, etc.

PROGRESSIVE MEDICINE. Edited by Hobart Amory Hare, M. D,. Professor of Therapeutics, Materia Medica and Diagnosis, in the Jefferson Medical College, Philadelphia, and Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia. Published by Lea & Febiger, Philadelphia and New York, September 1st, 1914.

Volume III, Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Bloodvessels, by William Ewart, M. D., F. R. C. P. Dermatology and Syphilis, by William S. Gottheil, M. D., Obstetrics, by Edward P. Davis, M. D., Diseases of the Nervous System, by William G. Spiller, M. D.

The great value of this publication is that it gives much more than an abstract of the work done in these departments of medicine during the current year; it presents an appraisal by a competent authority of the year's progress and so economizes the reader's time by presenting for his consideration only what is important, supplemented throughout by judicious editorial comment.

Progressive Medicine is the best sort of a perennial post-graduate course and we hope the number of its readers may steadily increase.

A History of Laryngology and Rhinology. By Jonathan Wright, M. D., Director of the Department of Laboratories, New York Post-Graduate Medical School and Hospital. Second Edition, Revised and Enlarged. Octavo, 357 pages, illustrated. Cloth, $4.00, net. Lea & Febiger, Philadelphia and New York, 1914.

After an introduction on the physiognomy and etymology of the nose, the author "linked together the story of the records of the nose and throat in medicine with the general drift of medical history, with the salient features in the early history of the civilization of mankind and with the general literature, which has a bearing upon the central subject of the work." He follows it over its period of three thousand years and more, "from the dim and misty past of incantations and exorcisms, from the early days of Grecian civilization when Hippocrates made a specialty of medical science, separating it from other sciences, to the days of the microscope and the spectroscope and the stethoscope, and the laryngoscope."

The chief chapters deal with the Egyptian, Hindu, Hippocratic, and Roman medicine, Celsus, Galen, the Arabians, the pre-renaissance period, the renaissance and its results, the prelaryngoscopic era, leading into the 19th century. From here on the different sections are devoted to the history of the laryngoscope, the tonsils, nasal anatomy, physiology and pathology, accessory nasal sinuses, bacteriology of the nose and throat, tuberculosis of the upper air passages, laryngeal paralysis, laryngeal cancer and its extirpation.

The survey is greatly facilitated by the headings of the single paragraphs in heavier type, a table of contents, index of personal names and subjects. As the author has taken notes chiefly from the original sources, the reliability of the elaborate work is assured, which will be read with great interest and profit. The external appearance is very good.

C. Zimmermann.

A Manual of Diseases of the Nose and Throat. By Cornelius G. Coakley, M. D., Clinical Professor of Laryngology in the College of Physicians and Surgeons, Columbia University, New York. New (5th) edition. 12mo, 615 pages, with 139 engravings and 7 colored plates. Cloth, $2.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

For those not familiar with the former edition of C.'s work it may be pointed out that the purpose of the author to provide a compact manual answering the needs of both students and practitioners, has been splendidly accomplished. Special attention has been devoted to the chapters on examinations, diagnosis, and treatment, as the most important for practice. Sufficient directions, however, are given to microscopical and bacteriological investigations. The descriptions of operations are very accurate and clear, and the understanding is facilitated by illustrations of their single phases and of instruments. Each article of the new edition has, as the author states, been carefully revised, and such changes made in the diagnosis and treatment as have been found practical as a result of personal clinical experience. A special chapter devoted to therapeutics has been added, with a classification of drugs according to their local actions and a number of useful prescriptions with indications for their employment. Paper and print are excellent. Thus the new edition will be sure to increase the large circle of friends of this useful book.

C. Zimmermann.

ABSTRACTS

Electricity in Diseases of the Eye, Ear, Nose and Throat. By W. Franklin Coleman, M. D., M. R. C. S., Eng., Ex-President of and Professor of Ophthalmology in The Post-Graduate Medical School of Chicago, Ex-President of The Ophthalmological Society of Chicago, Professor of Ophthalmology in The Illinois School of Electro-Therapeutics, Chicago, etc. With 595 pages and 156 illustrations. Price, $5.00. W. F. Coleman, Publisher, Chicago, 1912.

The author embodied in this volume the results of his studies, pursued for years, of the literature, and his experimentations in the physics and clinical applications of electricity, with the aim to make it eminently practical. Chapter one contains such elementary physics as are essential for the intelligent use of electricity, couched in language that is intelligible to all, the others the therapeutic use of electricity and the technic of its applications, electericity in diseases of the eye, ear, nose and throat, with histories of cases and results, and descriptions of the author's equipment. The literature has been amply utilized. The book gives a very good presentation of the subject and will prove a very useful guide.

C. Zimmermann.

Sympathetic Ophthalmia. Jess, A., (From the eye clinic of Prof. A. Vossius in the University of Giessen, Sammlung zwangloser Abhandlugen aus dem Gebiete der Augenheilkunde. Edited by Prof. A. Vossuius), Halle a. S. 1914, Carl Marhold, 1 M.. $0.25. Gives a very good synopsis of the symptoms and pathological anatomy of sympathetic ophthalmia and the older and recent theories, advanced with utilization of the modern methods of research, opening views from which perhaps a solution of the difficult problem may be hoped.

C. Zimmermann.

On Scleroses, Thromboses and Aneurysms of the Central Vessels (with Especial Consideration of Degeneration of the Vascular Walls). Gilbert, W.,

(From the eye clinic of Prof. C. von Hess in the University of München, Archiv für Aug. 77, p. 131), reports 5 cases in which the fatty degeneration and degeneration of the elastic tissue, which according to Arne Faber stand in the foreground in atherosclerosis, deserved the chief interest. In two cases of obstruction of the central artery in a woman, aged 81, and a man, aged 60, due to endarteritis deformans, a true atherosclerotic process, the fatty degeneration was not confined to the hyperplastic proliferation of the intima, but also involved the elastic and connective tissues of the innermost layer of the intima, which were converted into neutral fats and double refracting substances (cholestearin), lying free in the tissue, the smallest part in cells. In two other cases, (aged 62 and 69), the fatty degeneration could not be studied on account of faulty preparation, but the degeneration of the elastic fibers of the central vein was very plain, which is also an important early symptom of vasosclerosis.

The fifth case, a man 62, showed intense thickening of the intima and aneurysms of the central artery immediately behind the lamina and in front of the place, where the lumen was most stenosed, phlebitis, moderate proliferation of the intima, aneurysma dissecans and secondary thrombosis of the central vein with complete destruction of the vessel behind the lamina. The histological picture was identical with that of the final stage of the process in syphilitic arteries. Three plates illustrate the anatomical changes.

C. ZIMMERMANN.

ON CONTRALATERAL VISUAL DISTURBANCES OF NASAL ORIGIN. Ónodi, A., Budapest, (Zeitschrift für Aug. 31, April-May, 1914, p. 324), observed 12 cases of contralateral visual disturbances. From his morphological findings the propagation of the inflammation from the last posterior ethmoidal cell or the sphenoidal sinus to the contralateral optic nerve, and also circulatory disturbances, are explainable. Figure one e. g.: illustrates the intimate relation of the right sphenoidal sinus to the left optic nerve. It is separated from the right optic nerve by a compact layer of bone and is in no near relation to it, while the larger right sphenoidal sinus, surrounding and covering the small left sphenoidal sinus, directly touches the left optic nerve, and the common wall of the optic canal and the right sphenoidal sinus is formed by an extremely thin bone. Some illustrations of his specimens serve to the anatomical explanation of the etiology of bilateral visual disturbances in unilateral affections of the accessory nasal sinuses, of which O. observed 16 cases. Figure 3 shows on a frontal section the close relation of the asymmetrical large right sphenoidal sinus, which covers the left, to both optic nerves. Other specimens show the most different intimate relations between one hindmost ethmoidal cell and one sphenoidal sinus and both optic nerves and chiasm.

C. ZIMMERMANN.

TO THE PATHOLOGY AND THERAPY OF TUMORS OF THE HYPOPHYSIS. Fleischer, Bruno. Tuebingen, (Klin. Mon. für Aug., 52. Mai. 1914, p. 625), gives the abbreviated clinical histories of 15 cases with ocular symptoms, viz., simple atrophy in 14, choked disc, respectively postneuritic atrophy, in 1; with epicritic discussions. The 15 cases showed that after the visual disturbance has set in, it leads almost exclusively in a few years to amaurosis. In all cases hemianopic temporal defects were ascertained in the course of observation. As far as its development could be traced, the hemianopsia arose partly from enlargement of peripheral temporal contractions of the visual field, partly from early temporal paracentral scotomas which by spreading towards the periphery and peripheral contractions led to hemianopsia. This genesis of hemianopsia, observed also by other authors, does not seem to be rare. Whether the early lesion of the crossed macular fibers is to be attributed to a direct damaging influence of the tumor in consequence of especial anatomical situation (tumor of the duct of the hypophysis?), cannot be decided from lack of sufficient autoptic observations. Two cases, operated upon according to Schlosser, one according to Hirsch, took an extraordinarily favorable course. In the first case no further pathological symptoms have appeared for three years, and the patient is able to work. In the second case the almost totally lost vision was restored in the nasal visual field, and the third patient is able to work. Hence principally the operation of tumors of the hypophysis is urgently to be recommended. Progressive impairment of sight is an absolute indication for it. The literature is enumerated at the end.

C. ZIMMERMANN.

TUMORS OF THE HYPOPHYSIS AND MEDICAMENTOUS AND ORGANOTHERAPY. Wehrli, Eugen, Frauenfeld, (Klin. Mon. für Aug. 52, Mai, 1914, p. 653). A woman, aged 38, complained for about six months of impairment of sight. Both discs, especially the left, were pale, but showed no signs of neuritis. V. R.=O. 1 V. L. motion of hand at 30 cm., bitemporal hemianopsia. A year after her marriage, 10 years previously, her menses ceased and she gained enormously in weight (270 lbs.) by adiposity. The diagnosis was: compression of the chiasm from below by a tumor of the hypophysis. W. treated her with hypophysis tablets of Merck of O. 1 and, for speedy absorption and relieving the optic nerve, iodide of potassium O.5, three times a day, with excellent result, rising of V. to R. 1. 4 L. o. 24, considerable enlargement of the visual fields, general improvement and reduction of weight to 228 lbs.

There was also enlargement of the thyreoid gland, but no acromegaly. The examination with Roentgen rays showed a marked enlargement of the sella turcica. In this case of dystrophia adiposo-genitalis due to hypopituitarism the theoretically indicated internal medication of the corresponding organic preparations was practically corroborated. The more frequent acromegaly is a consequence of hyperpituitarism and therefore is not improved, but aggravated, by hypophysis extracts. W. recommends to try organic therapy before operation and also as after treatment of patients, successfully operated upon.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

ANNUAL ADDRESS IN SURGERY. DIAGNOSIS OF JOINT DISEASES.*

BY ALEXANDER R. COLVIN, M. D.,

ST. PAUL, MINN.

An exhaustive discussion of joint diagnosis would, of course, be impossible on an occasion of this kind, the subject is much too large. It is my purpose rather to endeavor to present certain features of the problem hoping to indicate at least the lines along which joint investigations proceed.

The same systematic clinical investigation that we employ in visceral disease is essential in the diagnosis of joint disease; clinical and laboratory methods require the same careful balancing. If we possessed a satisfactory classification of joint diseases the task of differentiating various groups would be great enough. Clinical investigation takes a much wider range and conclusions are at times impossible if the pathology and symptomalogy of the diseases of the organs and tissues remote from the joints are not taken into consideration. The question of referred and radiating pains is most important and their significance will not be comprehended without a practical working knowledge of the anatomy of the central and peripheral nervous systems, to say nothing of their physiology.

The pain referred to the abdomen in tuberculosis of the spine is a familiar enough phenomenon. When we remember the great number of joints connecting the various segments of the spine and that these joints are subject to all the diseases and injuries of other joints the possibilities of the distribution of referred pain become apparent. A further consideration of the relationship of nerve trunks as they emerge from the spinal column complicates the problem very considerably.

A consideration of our old friend Sciatica, with these anatomical facts in mind, has of recent years focussed our attention upon the lower spinal articulation, particularly the lumbosacral and sacroiliac joints. Sciatica will be more and more frequently recognized as a symptom only if we keep these joints and the hip joint before us whenever

FIG. I.

The blood supply of bones—after Lexer—showing the two regions, Metaphysis and Epiphysis, with their separate capillary areas where bone infections are most frequently located. Tuberculosis beginning in the Epiphysis and pyogenic disease in the Metaphysis.

*Annual Address in Surgery delivered at the Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 8, 1914.

pain is complained of in the areas of distribution of the sciatic nerve.

That pain in the same areas may be caused by tumors, aneurysms or inflammatory conditions within the pelvis or at its outlet only necessitates a wider range of investigation to avoid confusion. A celebrated clinician is said to have defined a consultant as one who makes a rectal examination. Most of these conditions can be palpated through the rectum or vagina. It would be just as unfortunate to locate the trouble in a joint because the pain was referred to the lower back or hip region when the lesion was remote from the joint. These sacroiliac and lumbo-sacral conditions have been the subject of much favorable and unfavorable comment. I will only say here that it is well to remember that each joint in the body, because of its individual anatomical construction, may be the subject of an injury peculiar to itself.

The injuries to the semilunar cartilages of the knee and the chapter on internal derangements will serve to demonstrate the truth of this remark. There are then certain peculiar injuries to the lower lumbar, lumbosacral and sacroiliac joints which, because they are not all clearly understood, serve perhaps the better to emphasize the pivotal point on which joint diagnosis turns.

I beg permission to use here a clinical case for purpose of demonstration. A man of thirty-two was sent to me because of paralysis of his leg muscles, with the request that I guide him to a competent neurologist. He had suffered for seven years from attacks of pain in the right lower abdomen, hip region and back of the thigh. These attacks of pain were always brought on by some exertion such as lifting and lasted several weeks. Because of the pain in his right lower abdomen, his appendix was, of course, removed in a skillful manner by a very competent surgeon. The painful attacks, however, kept recurring. While cranking his auto he experienced suddenly the pains described above and in a few moments lost the power of his legs. When I saw him later he had an organic paralysis. But he also had a disability of his lower back, in that movement of his spine was painful and resisted by muscular spasm. Rest in bed and later a plaster cast, immobilizing his spine, relieved his back and the paralysis cleared up gradually. Investigation during any of the attacks of pain in this man's case would have elicited the fact that the extremes of movement of his lower back were painful and resisted. Painful movements should at least suggest joint disability.

While writing this address I have seen a woman complaining of pain in the neck and shoulder. She had a small firm movable goitre, the removal of which was advised to cure these pains. The recognition of a stiffness of the neck with pain at the extremes of limited movement, coupled with the fact that the finger joints were also becoming progressively involved in rheumatoid disease, saved her the disagreeableness of an operation.

Much has been written since the advent of

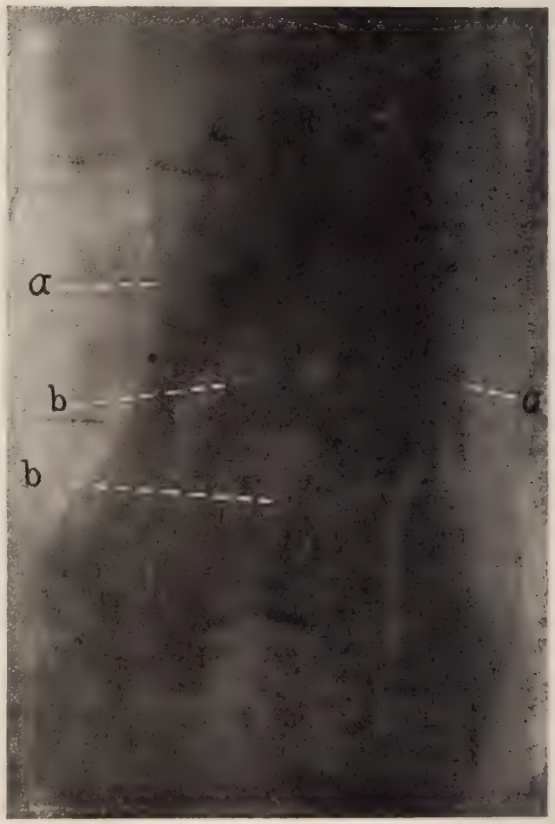

FIG. II.

Showing a metaphyseal lesion in a case of multiple osteomyelitis. In this case five different bones were infected and the early symptoms were referred to the joints. The Epiphysis is normal.

X-Rays about sprains to show that a bad sprain usually means a bone lesion. A few examples may not be out of place. I will show a picture of a knee joint in the case of a young man, who, while boxing, made a suddent mis-step and consulted me for swollen knee. It seemed useless to radiograph the knee but I reluctantly did it and found the large piece of bone broken off his condyle that you will see reproduced on the screen. A year later he still refused operation because it gave him no trouble even when he indulged in his usual sports. He had

no locking of the joint with the consequent swelling so characteristic of loose bodies in a joint. As a contrast to this case I will show the radiograph of a knee where following severe injury a very small scale of bone was knocked off the articular surface and caused great disability from locking of the joint and a consequent arthritis.

A woman, while consulting me for another malady, was seen to limp and on inquiry it was found that she had fallen two weeks before and knew—that one ought to treat every hip injury as a fracture until it can be proved not to be one and that a poor radiograph may be a distinct evil in the diagnosis of joint injuries.

A fall upon the outstretched hand produced an impacted fracture of the head of the radius. Movement of the elbow caused pain felt near the wrist joint and this symptom was what she complained of.

Injury accompanied by early distension of the

FIG. III.
Showing a cavity in the upper end of the Tibia, due to infection by the staphylococcus, the cavity was filled with granulation tissue.

although she had some pain for a few days, it soon disappeared. A radiograph disclosed an impacted fracture of the neck of the femur within the hip joint which went untreated with a very excellent result. On the other hand, within a year, I demonstrated to my own satisfaction, by a poor radiograph, that there was not a fracture in a like case and allowed the patient to walk. At the end of two weeks, the impacted fracture broke down and a very bad hip has been the result.

This has only impressed upon me what I already

capsule, will generally be due to hemorrhage and nearly always mean a fracture communicating with the joint. An injury peculiar to the shoulder joint which has led to much confusion and many stiff and painful shoulders, diagnosed as circumflex neuritis, deltoid paralysis and periarthritis, is usually an injury to the subdeltoid bursa. Here again a study of movement is the diagnostic criterion.

Neuritis leads to paralysis and loose joints; the injury alluded to, leads to a stiff joint and to so

much limitation of movement in abduction that an anesthetic is necessary at times to loosen up adhesions later. Pain, it is true, is a symptom of neuritis, but pain on movement is not a symptom of neuritis and it is of joint injuries. Bursitis of any nature, traumatic or infective, is one of the conditions requiring differentiation from disease or injury of the joint proper and although there are numerous bursae surrounding all joints, the one we have just considered, because it is so common, leads oftener to difficulties.

In disease of the joints proper although movement may be comparatively free in chronic condi-

FIG. IV.

Showing a Tubercular area in the olecranon process of the Ulna of an adult and represents the type of Tubercular lesion suitable for excision.

tions like tuberculosis, what limitation there is, is seen in all movements. In bursitis it is limited only to the movements involving the bursa and in case of the subdeltoid bursa it is abduction and internal rotation, the backward and forward movements are perfectly free.

In acute joint diseases of course all movements are noticeably restricted and attended by muscular spasm. To again emphasize the value of disturbance of motion in joint study the various inflammatory conditions occurring around a joint may be considered.

Abscesses in the axilla, groin or popliteal space may, if not recognized, give rise to the impression that the corresponding joint is involved. Here, too, movement is restricted only in one direction. Palpation of the various regions will usually clear up the difficulty. Deep inguinal adenitis is particularly deceptive by reason of the deep situation of the resulting abscesses.

The differentiating of joint diseases proper is still a very difficult but interesting task. Classification from an etiological standpoint, while being simplified, may still be said to be impossible. Nevertheless, as practitioners concerned with the treatment of those conditions, diagnosis from the standpoint of therapeutic indications is usually possible. Relief is important when cure is impossible but even relief comes only after an accurate knowledge and interpretation of pathological anatomical conditions.

While speculating with a brother practitioner in the hearing of a mother as to the kind of micro-organism causing the trouble in her child's knee, she remarked, "then you do not know what is the matter with the knee;" it took quite a little time to explain that the important thing in that case was what the micro-organism was doing to the joint, not the name of it. The grades of arthritis due to gonococcus, for instance, have long been known to vary from serous and fibrinous, to purulent and phlegmous. We recognize these grades of inflammation in other tissues in the case of other infecting micro-organisms and there seems to be no doubt but that in the case of a number of micro-organisms the same is true in joints.

The splendid work done by Rosenow and Billings in this country and Poynton and Paine, in Great Britain, has thrown a great deal of light on this subject. Rosenow's most recent article on this subject, "Relation of and the Lesions Produced by Various Forms of Streptococci with Special Reference to Arthritis," is particularly interesting as showing the grades of virulence due to the various transformed and transitional forms of streptococci.

If we keep in mind these most suggestive thoughts in our daily work we have a better understanding of the clinical phenomena of many types of non-suppurative arthritis, both acute and chronic. In a case of a suppurating tendon sheath infection, the patient developed several muscular abscesses and a non-suppurating inflammation of both hip and shoulder joints of a very severe and painful character, leading eventually to a good deal of stiffness and disability. Unnecessary arthrotomies with possible disagreeable consequences were

avoided by clinical alertness engendered by a recognition of the possibilities of different grades of infection in the same subject at the same time.

If acute infectious arthritis includes the acute arthritis of rheumatism, then practically the question of diagnosis has to do with the establishing of the grades of inflammation in every acute infection, and, where possible, the species of micro-organism and its initial infecting lesion. Whether an acutely swollen joint contains an appreciable amount of fluid will be evidenced by familiar signs. Whether the fluid is purulent or not may not be demonstrable except by aspiration.

One of the diagnostic points in acute rheumatism is that many joints are involved, but quite frequently we see in cases of unknown origin one joint involved with accompanying high temperature and much pain where a cloudy exudate containing cellular elements markedly distends the joints and still recovery takes place without aspiration or drainage. This emphasizes again the varying nature of the reaction in acute infections.

In such a classification of infections the non-suppurative form will be the most frequent. Multiple suppurative arthritis occurring independently of associated bone disease or some other very evident pus condition, is not very common but it does occur.

Multiple acute or sub-acute pyogenic osteomyelitis in children, where infections begin, as is usually the case, in the region of the epiphysis, may attract attention by the multiple joint swelling and be mistaken for a primary joint infection or acute rheumatism.

In every case of suspected acute articular rheumatism in children, one's attention should be repeatedly directed to the joint ends of the bones to detect evidence of bone infection. The early recognition of bone disease may mean not only the saving of the bone but the prevention of serious joint mischief, for very often the exudate in the joint in the early stages of bone trouble is of a very serous nature and this will disappear with the drainage of the bone.

Quite recently a most instructive case illustrating this point came under my observation. A girl eighteen years of age had an infected corn on one of her toes of her left foot. Three days after the beginning of the infection her temperature was 105° F. She complained of pain in the left knee. There was a localized area of tenderness over the inner tuberosity of the tibia. Under local anesthesia an incision was made at this point through the periosteum and a few drops of pus obtained. Pus was also seen pulsating through the vascular canals of the bone; a small area of cortex was removed, when a very limited area of infection was found in the spongy tissue of the bone. Three days later pain was felt in the right knee and tenderness was elicited over the same area as described as existing in the left tibia. Upon incising the periosteum, it was found normal but on opening the bone, about a teaspoonful of pus was liberated. The opening in the right side closed very quickly and there was

FIG. V.

The gross specimen in a case of Sarcoma of the lower end of the femur, showing the densely infiltrated spongy tissue.

This case accompanied by an elevation of temperature joint effusion and much pain had been treated in the beginning as Tuberculosis of the knee joint.

not, at any time, any demonstrable effusion in the joint. On the left side the opening in the bone persisted for some time and a marked effusion in the knee joint developed. Cultures made from the pus obtained revealed the staphyloccus pyogenes citreus.

The division of joint disease into acute and chronic is not altogether a satisfactory one. In children chronicity and tuberculosis are very apt to be regarded as synonymous. It is very important to remember that staphylococcus infection of the joint end of a bone may produce joint symptoms

extending over a period of time, which may well allow the term chronic and be readily mistaken for tuberculosis. Inasmuch as more aggressive operative therapy is indicated and successful in ordinary pyogenic disease the differentiation is important.

Lexer's study of the blood supply of bone in relation to the localizing of infection is most helpful in both acute and chronic infection of bone and thus is an aid to diagnosis. It will be remembered that the epiphyseal and metaphyseal arteries end in capillaries on each side of the intermediary cartilage. On the diaphyseal side the pyogenic infections occur and on the epiphyseal side those of tuberculosis, so that when in a case of acute joint involvement we wish to prove or disprove the osteal origin of the trouble, we know where to palpate for the tenderness which is significant of bone trouble. It is remarkable how often the trouble is found in the metaphyseal region and in the subacute infections, remains localized there.

Chronic joint disease, etiologically considered, is more difficult to classify than the acute forms. Rheumatoid arthritis, arthritis deformans and chronic rheumatism cover a lot of joint pathology. Goldthwait's classification of infectious arthritis, atrophic arthritis, and hypertrophic arthritis is much the simplest one we have.

Radiographic, clinical and pathological anatomical characteristics—enumeration of which even would be too time consuming here—serve to differentiate them in the course of time from the chronic forms of joint disease such as tuberculosis and syphilis.

FIG. VI.
A radiograph of the femur shown in Figure five (5).

In the early stages of all chronic joint diseases diagnosis may well be said to be difficult or impossible and while it behooves us to arrive at a conclusion as early as possible, time is permissible and necessary in some cases. For while we can hope for an ever-increasing certainty in the diagnosis and treatment of many conditions medical, still, as practitioners, we are compelled to pursue the course justified by our present state of knowledge. And this necessitates above all things in

joint work, a continued and alert observation with repeated analysis of the data thus gained during the course of the trouble. To be sure, many cases come under our observation when changes have already taken place which furnish sufficient data for accurate diagnosis. As a general proposition, it may be said that in adults tuberculosis of joints causes earlier disabling symptoms than in the rheumatoid group. Which also means that it will cause early the physical changes in the joint which are characteristic of tuberculosis.

So great and experienced an observer as König said, that tuberculosis of bones and joints has no typical course and that after all, while we can diagnose a serous or sero-fibrinous hydrops and, in a certain per cent. of cases, say that in all probability it is tuberculosis, there still remain some cases in which we cannot diagnose the etiology without opening the joint. Axhausen, after an extensive study of bone and joint syphilis, says that clinically and radiographically diagnosis is impossible between syphilis and tuberculosis—in both we have the capsular thickening and negative X-Ray finding. When two joints are involved, it is more likely to be syphilis. Contracture of the joint is more likely in tuberculosis than in syphilis.

In this connection I will show a tuberculous knee which had lasted seven years without contracture and a syphilitic knee of four years duration and treated as tuberculosis, also without contracture. The Wassermann test is pretty uniformly positive in bone and joint syphilis.

From the standpoint of therapeutic indications the diagnosis of joint tuberculosis is not sufficient. We must also know the anatomical pathological changes before treatment can be properly carried out. For while the protective treatment is sufficient in most instances, carefully selected cases showing localized foci suitably situated call for operative treatment. Syphilis of bones and joints presents a very variable picture—and it is well to remember that syphilis is a sytemic disease with lesions simulating many maladies. If we conduct our joint investigation with this in mind, we will probably find other evidence of syphilis somewhere in the body. We must also remember that syphilis after a prolonged latency may, years after earlier manifestations, show again great activity. This be it remembered, however, is also true of pyogenic disease of bones (and thus indirectly of joint trouble). Syphilitic inflammation is never suppurative and the other infections may be. Sarcoma situated in the joint end of a bone may very readily be mistaken for joint trouble before a tumor can be felt—elevation of temperature, joint effusion, and much pain all being present.

Even with all these symptoms present, however, movement may not be limited and when it is, it is not in proportion to the pain complained of. Joint exudate and elevation of temperature will only be present in the rapidly infiltrating form of sarcoma and if the disease begins in the interior of the spongy ends, diagnosis will be impossible until either the radiograph shows bone destruction or a tumor is palpable. Giant-celled sarcoma, a comparatively benign form, rarely causes joint symptoms unless it is producing a deformed bone with a consequent joint strain.

It may be well to conclude by calling attention to the healing of fractures with deformity as a cause of joint strain, thus producing chronic deforming arthritis.

ANNUAL ADDRESS OF THE PRESIDENT OF THE WISCONSIN EYE, EAR, NOSE AND THROAT SPECIALISTS.*

BY HENRY B. HITZ, M. D.,
MILWAUKEE.

I shall not impose upon your patience nor consume a great deal of time in this address. The excellence of the program as arranged and the brevity of the time at our disposal would make such a proposition indefensible. I propose, however, to consume a few moments in running over the history of this society and to point out a few things that seem to me of value in advancing the purpose of its organization. About ten years ago the Oto-Ophthalmic Club was formed, by about a dozen gentlemen specializing in diseases of Eye, Ear, Nose and Throat. Its intent was to bring together its members in frequent intercourse to discuss matters of professional interest. It was loosely organized and was in fact, what it was in name, a "Club". Meetings were held with regularity throughout the fall, winter and spring months in which considerable material of an interesting character was presented. The result has been a better appreciation by each of his fellow members, and it has undoubtedly made for concord and general professional improvement.

*Read at the First Annual Meeting of the Wisconsin Eye, Ear, Nose and Throat Specialists, Oshkosh, Oct. 8, 1914.

In the past year it seemed as if the situation was ripe for a re-organization along the lines of other special medical societies, and hence the Milwaukee Oto-Ophthalmic Society came into existence. The purpose of this newer organization is in a larger sense to meet the demands in our own locality for better development along our several special lines, and it was for this reason that it appeared to your officers, a wise step to call the present meeting in conjunction with the State Medical Society of Wisconsin, thereby giving an added interest to its members and to many of the visiting gentlemen. It was furthermore thought that some of the men who might occasionally be able to avail themselves of the opportunity of being with us at our regular meetings, may have their interest awakened at this time.

It has been the aim, one might say the policy, of this society, to make its meetings of interest and of lasting value to its members, and with this in view men of prominence and distinction have been guests of this society and have presented matter for which they are peculiarly fitted. Amongst the most noteworthy of our efforts was the bringing of Professor D. A. Ruttin, of Vienna, to Milwaukee where he gave a course of lectures upon the labyrinth covering sixteen hours, and in this connection also arrangements were being made for a similar visit from Dr. Neuman for this coming fall, but unfortunately this has fallen through. Under the auspices of this society, too, Dr. Lewis, of Dubuque, gave a demonstration with apparatus, of the theory of vestibular function. Others have appeared before this society of whom Dr. Joseph Beck, of Chicago, has been a notable example, for we all remember with a great deal of pleasure his excellent demonstration of nasal pathology.

As I conceive it one of the objects of such an organization as ours, is to stimulate the interest of its individual members in their work, both by the excellence of the material presented for their consideration, clinical and theoretic, and whenever it is possible by the added stimulus of outside thought.

It was said of Philadelphia many years ago that it had a "medical atmosphere" which any one in search of medical knowledge could well inhale with benefit to himself. This unquestionably was the result of the constant interchange of medical thought. The last generation has seen the rapid development of this state of affairs throughout the length and breadth of our land, and it is in keeping with the trend of our present special development that we in this locality should help "create a more distinct medical atmosphere" here. Hence I suggest to the members and guests at this meeting, active support to the proposition of the creation of an atmosphere of science in this society by the presentation of well prepared papers or case reports and by the constant attendance at its meetings and a free and liberal discussion of the material presented.

In closing I wish personally and on behalf of this society to thank all of those who have contributed to the success of this meeting, and specifically Dr. Allen and Dr. Hogue whose individual efforts have made this meeting possible.

THE TREATMENT AND INDICATIONS FOR OPERATION IN GLAUCOMA SIMPLEX.*

BY HARRY S. GRADLE, M. D.,
CHICAGO.

Glaucoma is a disease, a symptom of which is an increase in intraocular pressure. In the inflammatory types of glaucoma, this symptom is predominant, in that every other phase of the clinical picture is subordinate to the increase. But in the non-inflammatory type, or glaucoma simplex, the increased intraocular pressure, although prominent, does not play the exclusive leading rôle. It is with this type of the disease that this paper deals, and I shall confine myself to a discussion of the predominant symptoms, from a therapeutic and operative standpoint.

The cause of the increase in intraocular pressure is still unknown, and no theory that can answer all of the questions presented has ever been propounded. A large percentage of ophthalmologists believe, with Thompson Henderson, that an intimate relationship exists between intraocular pressure and blood pressure, and, accepting this view, have endeavored to exert an influence upon the glaucomatous eye by systemic measures aimed at the vascular hypertension. Laquieze claimed that in sixteen out of nineteen cases the arterial lesion was elevated above the normal. If we accept the view that the aqueous humor is partially a secretion and partially the result of osmosis, such a relationship would seem plausible. But, as has been definitely

*Read at the First Annual Meeting of the Wisconsin Eye, Ear, Nose and Throat Specialists, Oshkosh, Oct. 8, 1914.

proven, the degree of osmosis involved in the production of the aqueous is far overshadowed by the other factors, and consequently the influence of vascular hypertonicity is correspondingly small. Kraemer examined forty-five cases of glaucoma simplex, and found arterial hypertension in only sixteen, or 35.6 per cent. On the other hand, among ninety individuals of the same age as the glaucoma patients examined by the same investigator, there was abnormally high blood pressure in 33.3 per cent. On this basis the blood pressure would amount to about two per cent of all of the factors involved in the production of ocular hypertonicity. I believe that to be about the correct figure.

But there is no question that the ocular tension can be influenced from a systemic standpoint. Wessely was able to demonstrate conclusively that the intravenous introduction of certain drugs that decreased the blood pressure by the dilatation of the intracranial vessels, as amyl nitrite, caffein, etc., caused a measurable increase in intraocular pressure.

Recently, Hertel published an extensive series of interesting experiments in this connection. He introduced large amounts of salt solutions of varying concentrations into the vascular system of rabbits, and carefully measured the changes in the intraocular pressure with the Schiötz tonometer. The concentration and the amount of the solutions used eventually killed the animals, but it was shown that concentrations of 0.7 per cent. and greater, up to 10 per cent., invariably reduced the tension, so that just before death the eyeball became mushy. On the other hand, solutions of less than 0.7 per cent. in strength resulted in a marked rise in tension, simulating a glaucoma. The same author was able to cause a marked diminution in tension by the intravenous use of diabetic serum, basing his experiments upon the clinical fact that in diabetic coma (and in no other form of coma) there exists a marked hypotonicity. The acidosis theory, advanced by Fisher, and the treatment of the disease based upon this theory, has been universally discarded.

However, the tension of the eye, whether normal or increased, can be depressed by manipulations other than the use of miotics. I refer to massage. Knapp showed in 1912 that the tension of a normal eye could be reduced 8.91 millimeters of mercury by three minutes' deep massage of the eyeball. True, this hypotonicity disappeared within twenty to twenty-five minutes, but it proved that massage dilated the normal intraocular outlets temporarily and led to a more rapid filtration of the aqueous. A glaucomatous eye may or may not yield to massage with a reduction of the hypertension, depending upon the balance of the intraocular fluids. If the intraocular outlets are patent to a minor degree, or if they possess the potentiality of being opened, we have an indication from the massage that the disease may yield to conservative treatment. But if no reduction in hypertension, or at the most a very slight reduction, follows the massage, we are justified in assuming that operative interference will be necessary to reintroduce the intraocular pressure balance. More or less empirically speaking, a temporary reduction of at least four to six millimeters of mercury should result from three minutes of deep massage to prove the potential patency of the outlets.

To judge of the prognostic value of massage, skill with the tonometer is essential. This invaluable instrument was first introduced to ophthalmology by Professor Schiötz in 1907. Since then he has perfected three improved models. Three years ago we published a mechanical modification of the Schiötz tonometer, employing the same basic principles, but eradicating the technical defects. The readings with the two instruments coincide to within one millimeter of mercury. In using either of the instruments an absolute corneal anesthesia is essential, and for this a 1 per cent. solution of holocain has proven the best. I do not intend to speak of tonometry at length, but do wish to emphasize one point, the disregard of which causes the majority of errors that occur in the use of the instrument: The anteroposterior axis of the eye must be absolutely vertical and the tonometer must be so placed as to be a direct continuation of this axis.

There is one other danger signal in glaucoma simplex upon which we can place a certain dependence. I refer to the visual fields. But I do not believe that a careful and daily study of this factor will yield a large amount of reliable information, nor do I believe that we can place a great dependence upon such results. There is a great variance in any one individual's visual fields from day to day, and even from hour to hour, depending upon the illumination, upon the physical condition of the patient, upon the mental acuity, upon the quickness of the association paths, and upon other factors too numerous to mention. In other words,

the visual field factor is altogether too subjective a matter to permit of the detection of delicate changes in the course of the disease.

The other signs and symptoms of glaucoma simplex are of no great value from the prognostic standpoint. We are thus forced to judge of the value of our therapeutic measures from three angles: First, the curve of absolute intraocular pressure, tonometrically registered. A curve should be plotted for every patient, with readings made at least twice a week. The course of this curve is a fair indication of the immediate value of the miosis induced. Second, examination of the patency of the intraocular outlets. At the first examination of the patient the tension of the eye should be measured before and after three minutes of deep massage of the eyeball, and this should be repeated every two weeks. Should there be a diminution in pressure of less than four to six millimeters of mercury, we must keep before us constantly thoughts of operative interference. Third, examination of the visual fields. This should be done every two weeks and gradual contractions carefully watched for. But, to my mind, this is the least important, or, rather, the least dependable of the three factors.

In glaucoma simplex, therapeutic measures must be given an exhaustive trial before operative interference may be resorted to. Our main reliance lies, of course, in the use of miotics; although measures directed toward the attainment of a perfect physical condition, toward mental rest, etc., must not be neglected. Eserin must be used cautiously, in that a single instillation may superinduce an attack of acute inflammatory glaucoma (Wessely), while continued use can lead to an obstinate chronic conjunctivitis or a low grade iridocyclitis. A 2 per cent. solution of pilocarpin nitrate yields better results, and is less apt to lose its efficacy in the long run.

After the diagnosis has been established and the various tonometric and perimetric readings recorded, the miotic treatment may be begun. The pilocarpin solution should be used from three to eight times in the twenty-four hours, depending upon the extent to which the eye reacts. This treatment, which I designate as intensive, must be maintained for at least two weeks, irrespective of its success or failure. Then another careful examination, including the effects of massage, should be made. If no change in the existent conditions is recorded, the intensive treatment should be continued from two to six weeks longer, depending upon the severity of the symptoms, before operative interference is indicated.

If, however, an amelioration of the condition is found, a two weeks' period of moderate treatment may be entered upon. This consists in one or two instillations of pilocarpin daily, accompanied by a slight relaxation of the vigorous hygienic treatment and mental rest. During the first few days of this period the eye must be carefully watched for an increase in the severity of the disease.

Should the glaucoma continue to yield to a two weeks' course of moderate treatment, we may further diminish our therapy to the minimum treatment. This consists in allowing the patient to resume the former course of life, necessarily modified enough to be in conformance with modern hygiene, and the use of a single drop of 1 per cent. or weaker pilocarpin every two or three days.

A fair majority of the cases will yield to the intensive treatment, while only a few are entirely uninfluenced by the miotics employed. But not many of the cases can be allowed to pursue the even tenor of their ways under the minimum treatment. The majority either require moderate treatment or operative interference. It is very difficult to lay down empirical indications for operation, as each case is a law unto itself. But we may say that a horizontal curve, or a rising curve of tonometric pressure, that a failure to decrease the intraocular pressure more than four millimeters of mercury by three minutes of deep massage of the eye, that a gradual contraction of the visual fields, and that a gradual diminution of vision, form the boundary posts dividing the therapeutic and surgical aspects of glaucoma simplex.

What operation is to be performed when necessary? We may divide the operations aimed against glaucoma simplex into three classes: First, those opening the normal intraocular outlets, as the iridectomy is supposed to open the canal of Schlemm; second, those opening new intraocular outlets, as the cyclodialysis that frees the path between the anterior chamber and the suprachoroidal spaces; third, those opening extraocular outlets, as trephining.

Despite the successes recently reported by Evans and Butler, public opinion does not favor iridectomy in glaucoma simplex. From the masses of statistics at our disposal, it is probable that this operation is not successful in more than fifty per cent. of the cases, and even when successful in

lowering the tension, at times blots out the small remaining visual field, so that, from the standpoint of the patient, the operation is a failure. This latter feature is not confined to iridectomy alone, but also appears after trephining. This has happened to three cases that I trephined, and, although six months have elapsed, the vision of these patients is still only quantitative. Consequently, I prefer to perform a cyclodialysis as the first operative procedure in glaucoma simplex. The results of this operation may be divided into three classes: First, permanent cure; second, relief of symptoms, lasting from six months to three years; and, third, failure. Sixty per cent. or more of the cases will fall under the first two headings, and by far the majority of these under the second. But the cases of class two are amenable to another cyclodialysis, performed six months to three years later, and the disease may be kept in check by the performance of this simple operation at repeated intervals. I have in mind one patient in whom we have held a malignant form of the disease at bay for nearly eight years by three cyclodialyses. Especially in patients with but one eye is this course of treatment advisable. However, if the operation proves to be a failure within a month or so, it is useless to attempt to repeat it.

In about forty per cent. of all cases the cyclodialysis operation will have shown itself to be a failure in less than four weeks. We are then forced to further operative interference. The modern tendency has been toward the various sclerotomies (Herbert, Holth, Lagrange, and Elliot). It is only with the latter that I have had any experience, althought the same dicta hold true for all operations of this class. The primary results are excellent, and we may count upon conquering the disease in about eighty-eight per cent. of all cases. But the secondary dangers, and by that I mean late infection, are so great that we must hold the operation as a last resort. Keeping in mind the statistics of Meller, and the numerous late infections reported in the recent literature, are we justified in exposing a patient to the dangers of panophthalmitis, a danger that will be present for the remainder of his life? In clinical patients, over whom we have no further control, most emphatically no. In private patients, intelligent enough to understand the dangers and to comprehend the prophylaxis, we may take the risk, rather than lose the eye by the steady inroads of the disease.

CONCLUSIONS.

There are three main prognostic features to glaucoma simplex upon which we depend for indications for operative interference. These are:

1. The curve of intraocular pressure, tonometrically registered.

2. The influence of definite limited massage upon the existent intraocular pressure.

3. The visual fields.

These factors should be carefully studied over a period of weeks, and upon them must depend our decision to interfere with operative measures.

In case operation becomes necessary, it is advisable to attempt a cyclodialysis. Should this be successful, a minimum of harm and a maximum of good has been done. Should the procedure, however, prove of no avail, we are then justified in resorting to an operation of the third type—a filtration operation. This type should be reserved as a last resort, especially in the case of clinical patients.

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MEDICAL LEGISLATION.*

BY HON. A. C. UMBREIT,
MILWAUKEE.

INTRODUCTION.

Medical Practice Acts are no longer of doubtful validity. Courts, both federal and state, have uniformly sustained them as a legitimate exercise of the police power of the state. Here and there, special features of particular acts have been declared void because too indefinite or too uncertain, but none have been pronounced invalid because too drastic. As far as the judicial tribunals are concerned—I mean tribunals of last resort—the question of the validity of medical legislation is finally foreclosed. Convictions for violation of the Medi-

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cal Practice Act have been affirmed with practical unanimity. From the standpoint of substantive law, medical legislative enactments need no further argument.

NEED FOR FURTHER LEGISLATION.

Notwithstanding the fact that our medical legislation has been thus uniformly endorsed by our courts, further legislation on this subject is necessary. This is especially true in Wisconsin. Our first Medical Act was passed in 1897, and has never been re-written since. The law has been amended, modified, expanded, and repealed so many times that the result is a Medical Practice Act, containing many contradictory provisions, some obsolete sections, and a number of provisions of doubtful value. The whole law should be re-written and re-enacted.

But this confused state of the law is not its chief weakness. If new medical legislation is to be attempted, such legislation should be undertaken in view of our past experience and as a result of observation of seventeen years attempted administration.

(1) We must remember that men are not, and cannot be made, honest and efficient by mere acts of the Legislature. All that can be accomplished by statutes is to make dishonesty and inefficiency difficult and unpopular, if possible. Hence we cannot expect to produce honest and efficient practitioners of medicine by the mere fiat of the law-making power, prescribing requirements and imposing limitations. In short, we must not expect that the enactment of new medical legislation, no matter how complete and how excellent, will result in the production of an ideal state of the practice of medicine in Wisconsin.

(2) The main criticism of the present Medical Practice Act—taking the Wisconsin Act as an example—is not uncertainty in its terms as a protective measure for the public; is not indefiniteness in its requirements demanded of those who shall have the state's badge of efficiency; is not its provisions for punishing those who violate its prohibitions, but its failure to secure the support of the lay public for whose benefit the Act was passed and to protect whom seventeen years of strenuous efforts at enforcement have been devoted.

(3) It is an axiom in governmental science that any law, no matter how beneficent in its provisions, not supported or approved by public opinion, is worse than a dead letter. It matters not whether such want of approval be due to ignorance or to bias or to prejudice; the result is the same.

(4) This want of approval on the part of the public, due mostly to ignorance, is the cause, the sole cause, of the failure of our present Medical Practice Act as a protective measure. Hence arises the need for more and other medical legislation, constructed on a different foundation and developed along different lines.

THE BASIC PRINCIPLES OF A NEW MEDICAL PRACTICE ACT.

There is no call for new medical legislation unless the new Act will change the attitude of the lay public of indifference, and even of hostility.

Hence the new Act should have these principles as the basis:

First—It must be protective of the public health and welfare.

Second—It must be simple in its terms and comprehensive in its provisions.

Third—It must appeal to the unprejudiced lay mind as fair and within the reasonable necessities of the situation.

Fourth—It must be readily and easily defendable against all assaults, however unreasonable and indefensible the attack.

Fifth—It must be easily enforcible, practically self-executing as it will be if it meets the foregoing propositions.

But all theorizing and moralizing will profit us nothing unless we can reduce our theories and morals to concrete agencies. Hence we will benefit little or nothing by a mere discussion of why our present Medical Act has failed to accomplish its purpose and by suggesting the theory upon which a new Act ought to be constructed. Therefore, I will attempt to reduce my theory, based on seventeen years experience and observation, to a concrete form by giving an outline of an Act which will meet, in my judgment, the five essential requirements of a new Medical Practice Act, just enumerated.

In giving this concrete idea, I claim no new discovery, as far as I am concerned. The outline of the Act that follows herein is along the same lines I suggested before your Society two years ago and last year, the same Act I have urged before two

national bodies interested in medical legislation as the essential features of a federal act.

A NEW MEDICAL PRACTICE ACT.

1. *The Composition of the Examining Board.*

There must be an official body which determines the qualifications of applicants for the practice of medicine. These qualifications must be determined by the examination of the educational and personal records of the applicants and by an examination of such applicants in certain fundamental subjects necessary for an adequate preparation for the practice of medicine. These examinations should be conducted by an examining board to whom I would give the title "The State Board of Medical Examiners". I have learned that it is useless to denominate this official body anything else than what it really is, namely, a Board of Medical Examiners. It is now well known what is meant by the practice of medicine, and even those misguided and misguiding individuals who claim their particular cult of attempting to heal the ailing is not practicing medicine, can no longer make any headway with such claim.

Such Board should be composed of seven members appointed by the Governor from the qualified licensed practitioners of the state without any regard to special schools or systems of practice. As long as the Medical Practice Act recognizes different schools or systems of the practice to the extent of providing that each of the various schools or systems shall be represented upon the examining board, public prejudice will continue and the result will be inefficient administration.

2. *Educational Requirements, Preliminary and Professional.*

Applicants for licenses must present to the Board before permitted to take the examination satisfactory evidence, a diploma, from a reputable scientific or professional school or college, which specially prepares for the practice of medicine, or for the practice of the healing art, drugless or other-less. Such college or school, to be deemed reputable by the Board, shall require at least four courses of not less than seven months each for graduation and as a prerequisite to admission to their curriculum a preliminary education equivalent to graduation from an accredited high school of this state, and in addition thereto, a preliminary education amounting to the equivalent of two years attendance at the University of Wisconsin.

3. *Subjects of the Examination.*

Applicants who satisfy the Board as to their training and special preparation shall be examined in seven, and no more, subjects, to-wit, anatomy, histology, physiology, pathology, chemistry, general diagnosis and hygiene.

If the applicant after such examination, is found qualified, he shall be licensed to practice medicine in this state, such practice including the regular practice of medicine or osteopathy, or Christian Science or chiropractic or mechanotherapy, or any other drugless or other-less system or cult.

4. *Limitations as to Practice.*

No person, however, shall give or prescribe drugs or perform a surgical operation or practice obstetrics, unless the license granted him by the Board, as above described, specifically authorizes him so to do.

5. *Reciprocity.*

The reciprocity provisions now generally found in our state Medical Practice Acts should be continued, reciprocity, however, being entirely within the discretion of the Board, and such discretion to be exercisable only in case the applicant for a reciprocal license presents a license from a state whose requirements for the practice of medicine are the equivalent of those imposed by the laws of our state.

6. *Penalties.*

The penalty for violating any of the provisions of the Act should be severe, not a light fine or county jail imprisonment, as at present; the minimum fine should be $100.00 and the maximum $500.00 or imprisonment in the State Prison not to exceed at least two years or both such fine and imprisonment.

7. *Definition of the Practice.*

In my judgment no definition of what shall constitute, or what shall be considered as, the practice of medicine, or the practice of the healing art in any other form, should be incorporated in the Act.

Many of the medical laws, including our own, contain long, minute involved and apparently comprehensive definitions of what is to be considered the practice of medicine. Right here lies the vice of our medical legislation, as far as effective enforcement is concerned.

It is a canon of legal construction that where the

doing or not doing of a number of things is included in a legislative enactment as a definition, all other things not so enumerated are excluded.

The ingenuity of man has not been able to discover or invent a definition of the practice of medicine which will meet every possible form of practice the unlawful practitioner may proclaim as his particular cult and which will prevent his presenting a plausible contention that he is not within the definition. Hence it would be sufficient to provide that no person shall practice medicine, surgery, osteopathy or any other form or system of healing, or hold himself out as so doing, without having a license from the Board, and if he does, then he shall be subject to the penalties herein enumerated.

8. *Unlicensed Practice Allowed.*

The provision as to the necessity of a license to practice medicine, surgery and osteopathy, or any other system of healing, shall not be construed as forbidding the practice of medicine—note I do not include the giving of drugs or performing surgical operations, or practicing obstetrics—by an unlicensed person, if such person displays prominently upon all his advertisements, signs, cards, letterheads, office door or windows, circulars or any literature used in connection with or in reference to his vocation, the following words *"not licensed to practice medicine or to practice the healing art in Wisconsin"*. Such unlicensed person shall be permitted to treat, or undertake to treat only persons of full age and of full mental capacity, and shall notify every person before beginning any treatment that he is not a licensed practitioner. He shall not be permitted to treat any minor or any person mentally deficient, nor shall he treat contagious or venereal diseases. This provision merely compels a proper label on the package. At the same time it removes every claim of favoritism, of interference with personal liberty, of limiting the right of contract, and of preventing the development of new systems of healing.

If people of full age and full mental capacity desire to be experimented on by persons who they know have not sufficient knowledge or training in the seven essentials to any knowledge at all of the human system, then they ought to be permitted to do so. But the state will protect the children and the mentally deficient and will protect the community against the ignorant treatment of contagious and venereal diseases.

CONCLUSION.

I have submitted only the basic features of a new Medical Practice Act. The Act, of course, should include a number of details, such as time and place of the meeting of the Board, the manner of doing its business and keeping its records, the fees for the examination, its duty to investigate and prosecute violations, the duty of recording licenses granted, the requirement of annual and special licenses for itinerant practitioners, etc. These are minor, yet necessary, details.

I have not attempted to argue the provisions of the proposed Act beyond the introductory suggestions herein contained. The limits of this paper as to time will not permit me to give the reasons which have convinced me, at least, that the foregoing skeleton frame of a new Medical Practice Act is the only solution of the present situation produced by our inefficient and unsatisfactory medical legislation. I am satisfied that the proposed Act will (1) sufficiently and efficiently protect the lives and health of the commonwealth; (2) is simple in its terms and comprehensive in its provisions; (3) is unassailable, at least successfully, from any standpoint; (4) is easily enforcible and above all (5) will appeal to the lay mind, even though prejudiced, as fair, reasonable and necessary.

The proposed Act herein presented was incorporated in its essential features in a bill I prepared and which was introduced in the Legislature of 1913. That bill was defeated, primarily because the profession of the state, as a whole, took, or at least showed, no interest in the measure. If your Society, provided you are satisfied my position as herein disclosed is correct, and the profession in Wisconsin generally, will give me your and their support, I will draft another bill along the lines herein suggested and make another fight. In such case I will not consent to any compromise and herewith give notice that I have passed the point of being inclined to yield to the appeal that the practice of medicine, under the guise of religion or of religious practices, should not be interfered with. Train loads of fanatics, purses filled with tainted gold, may influence again timid or susceptible legislators, but if we go into this fight let us stand by what is right, without yielding and without compromise, or if not inclined to do this, let us continue to hobble along under our present unsatisfactory and inefficient Medical Practice Act.

DISCUSSION.

DR. J. P. MCMAHON, Milwaukee: Mr. Umbreit's paper parallels the one which you just heard by Dr. Zierath from the viewpoint of advanced thought.

Our present act is, of course, far from ideal and we should not remain passive or indifferent with respect to such an important matter. Any attempt at improvement spells progress. The proposed act indicates the superlative degree of progress and it should, in the main, be endorsed. I would like to see the general principles advocated by it written into the Wisconsin statutes. I am fearful, however, that it is too far in advance of the times to be possible of realization at this time.

A more general and a more active campaign of education of the laity, the legislators and the great majority of the medical profession must be conducted over a period of years; and the ignorance, the bias and the prejudice, mentioned by the essayists, must be overcome by this education before any measure so idealistic can be enacted into law in this or any other state.

One cannot too highly commend the provision to require all who may undertake to give advice with respect to physical or mental diseases to become acquainted with the fundamental sciences before entering upon a course in medicine. This Society passed a resolution during its last annual meeting endorsing two years of college work as a minimum requirement before entering upon a course in medicine. We should at least attempt to amend the present act so as to incorporate this requirement. We also believe that the present act should be amended so as to eliminate the extended and involved definition of what constitutes the practice of medicine. This question may, with propriety and safety, be left to the courts. After these features have been perfected, other desiderata can be secured the easier at subsequent sessions of the legislature. There are a number of new and important features advocated in the proposed bill and I should like to hear them discussed by Dr. Vaughan, who is with us this morning, Dr. Craig, Dr. Bardeen, Dr. Van de Erve, Dr. Seaman, Dr. Jermain, Dr. Dearholt, Dr. Warfield, the members of the State Board of Examiners and by others who have given the question consideration, and then I should like to hear a general discussion by the membership, such as will be of service in acquainting the Committee on Public Policy and Legislation as to just what the desires and pleasures of the Society are with reference to what should be undertaken during the coming session of the legislature.

DR. VICTOR C. VAUGHAN, President A. M. A., Ann Arbor, Michigan: Mr. Chairman and Gentlemen: I do not think that I am competent to discuss this paper. I listened to it with great interest. There are one or two very radical things in the paper.

It seems to me that medical legislation has done much of good. It strikes me "just off the bat" that it would be a dreadful thing to allow these non-licensed people to practice medicine. You must protect not only minors and mental incompetents, but who is to decide as to whether they are mentally competent or not?

PRESIDENT: On medical matters particularly.

DR. VAUGHAN: Yes, on medical matters. The fact that a man is learned in the law, for instance, or is a learned man in educational matters, does not prove that he has good judgment medically. It is a well known physiological law that skill, experience and education along one line does not fit a man to express an opinion along another line. For this reason it happens that even in our university faculties, as I doubt not Dr. Bardeen can tell you, there are men eminent in history, men eminent in mathematics, men eminent in social economy, who are absolutely "rotten" so far as medical science is concerned. (Laughter and applause.)

PRESIDENT: You put it too mildly, Doctor.

DR. VAUGHAN: Yes, I did. It seems to me that if you want to build up a lot of mental idiots in every community, the provisions of this act relate to it. There are thousands of people who would like to go to the unlicensed practitioner. It used to be the case that where there were two doctors in a town, and one of them was a drunkard, you would hear people say that they would rather have Dr. Jones drunk, than Dr. Smith sober. The very fact that a man was an unlicensed practitioner would attract attention to him.

I may be wrong about this, but I believe that it is perfectly feasible to define the practice of medicine clearly. I think it is done in a large number of medical practice acts now in force in this country. There cannot be any question about it. In Michigan, for instance, I do not believe that there is any question about the legal definition of the practice of medicine, and I do not think it has ever been questioned by any court. That is all I have to say. (Applause.)

PRESIDENT: We would like to hear from Dr. Craig, the Secretary of the American Medical Association.

DR. A. R. CRAIG, Secretary A. M. A., Chicago, Ill.: Mr. President and Men of the Wisconsin State Medical Society. Wisconsin is noted as being progressive. We look to your state to draw out a good many sociologic things for the benefit of the rest of the country.

PRESIDENT: We are an instrument for the good of all.

DR. CRAIG: And consequently we are looking with a great deal of interest upon whether or not you do enact this law, and then how it works out. I think I can promise you that most of the other states will wait for Wisconsin to try it on. (Laughter.) However, I think that I probably see the position of the lawyer here. It is very much the position of the English law. The English laws limiting or controlling the practice of medicine are what is known as definitive laws, whereas the laws in this country have largely been those which have been termed restrictive laws. If it be the purpose to define the practice of medicine and then to declare that every man in the community whose sanity can be established is to be permitted to avail himself of legitimate medical service, or to take to himself something that is dear to his heart, whether it contains truth or not; if it be the purpose that you are going to simply define a doctor

then it would seem to me that there is another clause that could be contained in this act, namely, a clause which should prescribe that those legally qualified physicians shall be accorded by the state certain duties, and shall be expected to perform certain duties. For instance, the legitimate physicians of your state, and they alone, should have the authority to sign death certificates; they alone should have the authority to determine whether the cases under their care are cases that are not a menace to the public health. Without this definition, it will be necessary for you to increase your health authorities, and the authority of your boards of health to a degree where it shall have surveillance over every sick member of your community.

Then, too, with regard to the definition of the practice of medicine, most laws have, it is true, been too specific, and have attempted to define and curtail the practice of medicine. Probably the best definition of the practice of medicine is the offering of one's services—in a professional way, if you please—for the relief of sick and injured humanity. Stop there and say nothing more. That does not mean that a household remedy may not be used at home, but that a man or woman who presents himself or herself to the community for relief of a sick or injured human being, should qualify in accordance with the definition of your act; and if that act be definitive, and definitive only, that the practitioner should be qualified, and they alone qualified, to determine the causes of death, the nature of disease in the community, and what is and what is not a menace to public health. If you have a restrictive law you overcome some of these difficulties with regard to your public health questions. (Applause.)

Dr. J. Van de Erve, Milwaukee: I like the ring of that paper exceedingly, but there are some very radical statements made with which I think a large number, perhaps an overwhelming percentage of those present, can not at least heartily agree to particularly as to the points that have already been emphasized by Dr. Vaughan, Dr. Craig and Dr. Bardeen.

I do not, for instance, believe that it would be wise, as is provided in this proposed act, not to take any examination of the applicants in obstetrics, surgery and medicine, particularly the first two named. There may be a question, and perhaps it is debatable, as to whether we shall examine a man in medicine, because of certain related questions and some social problems that are involved, and particularly the sectarianism that enters into it. But I personally do not see how any man can take exception to an examination in obstetrics. I do not see how we will dare to send a man out into practice unless indeed we first define, and define very precisely, and limit and circumscribe very accurately just what a man is to have in his preliminary education, and just what a school is to do, and just how a school at the close of the student's career is to check up on what he has done in that line. You notice that the examinations are limited practically, to the purely scientific years or the laboratory ones, the first two years of a man's study in a college, and we must, in my judgment, add a thorough examination in surgery, in obstetrics, and in medicine too. Perhaps the only question that is really debatable as to examination in medicine is not the principles that are involved, because that is where the examination ought certainly to be taken, but in the matter of treatment that comes after. If I am not mistaken the whole of medicine up to not long ago was summed up in two words, "diagnosis and treatment." Everything converged upon it, and all the efforts emerged from these two words "diagnosis and treatment." In the matter of diagnosis I do not see how we can excuse any man from examination in obstetrics and in medicine and in surgery, as well as in the laboratory subjects which are needed in order to make a good diagnosis, but which by themselves—I mean the laboratory subjects—will not give the necessary content in order to determine whether a man can properly diagnose. The treatment may well be left, or a large consideration at least given, and large allowance made to the individual cult and sectarianism that in some way or other may enter in.

There is a provision in this proposed act of two years of college work. Nothing is said about the interne year. Provided the content of the two college years, or of one college year, or speaking of any college work at all, the content of preliminary work is accurately limited and circumscribed and defined, I personally should prefer an interne year to any specific time limit set upon the preliminary education of any man. It is not quantity that counts, as has already been stated, but quality, and that differs so vitally, and in so large a way in our institutions. I think we shall have to come to the two years of college work, and for this reason: that our public school system, our high school system particularly, in this state and everywhere else, does not include the absolutely essential scientific subjects, and some colleges even, do not include them. I can mention a college in this state from which students have come to us, where physics is not taught in the college work, let alone in its grammar school department. Now that is fatal. If physics has not been taught in the high school it must be taught somewhere, and at least one year is necessary to do that; and in order to do that we frequently need something that must go before that. It is the same with chemistry and with biology. And it is because our public school system has not been made uniform. But that is a poor word to use, because we ought not to emphasize uniformity at all, but we ought to unite. It has not been unified; it has not been made in deference to what is coming after, because our public school system does not prepare a man for scientific work. It is well and good to enter upon literary work upon college work as it is given at the University; but even at our University of Wisconsin it is perfectly apparent that the school of medicine does not look upon the high school education as preparatory to, or the first two years of college work and university training there sufficiently ample to enter upon the study of medicine, and therefore, two preparatory years have been outlined there, as Dr. Bardeen could tell you in detail. That being the case, we need these two college years in order to get the proper scientific content.

Dr. L. F. Jermain, Milwaukee: There is no question

but Mr. Umbreit, in his capacity as counsel for the State Board of Medical Examiners, has given this matter more thought than probably any other man in the state of Wisconsin. He has been working on this subject for years, and I feel personally that many of the points that he makes in his paper are excellent in theory. The question is, however, and the one that we face practically, can you pass such a measure in the state of Wisconsin? What is the use in drawing up ideal medical practice acts unless you can pass them.

There is one respect in which I think our medical act should be amended this year, and that is with respect to the preliminary requirements for practicing medicine. We are still on the high school basis in this state, while our neighboring states of Minnesota, North Dakota, South Dakota, Iowa, Kentucky, Indiana, and Michigan, all require more than that. Most of them require two years of college work. That is what we ought to ask for, and I think that is what we can get. There will be no opposition to that, that I can see, except probably from some of the poorest medical schools in the country. They might send lobbyists here to prevent the passage of that sort of an act. The medical profession is, I think, in favor of this action. The house of delegates has twice in succession gone on record as favoring the adoption of the two years college requirement. And I think it can be passed.

Another feature in this bill that I think is of great importance is eliminating entirely from the Medical Practice Act any definition of the practice of medicine. That is where we always get caught; that is where the greatest trouble has arisen in enforcing a medical practice act. Leave it to the courts to decide what the practice of medicine is, and you are much better off than if you try to define it in the Medical Practice Act. (Applause.)

Dr. Ralph P. Peairs, Milwaukee: While this Society is considering the advisability of changing the present medical law there is a matter I desire to bring to your attention. I refer to a condition which has arisen during the past few years and which seems to be spreading, namely, the practice of nurses giving anesthetics and receiving pay for such services from the patient, from the hospital or from the doctor who employs them.

There is no good reason why this condition should exist. It is certainly unfair to physicians who are engaged in this work to demand that they spend four years in a medical college, pass an examination in the various branches of medicine before they are allowed to do this work and then permit some nurse who possibly is not even a high school graduate and whose hospital training may not be the best, to step in, do this work and collect the same fee as a physician. Because some surgeon employs a nurse to give his anesthetics does not make it right.

This practice is becoming popular because a few well-known surgeons say that they believe a woman makes a better anesthetist than a man. With this opinion I do not agree. While I have no objection to women giving anesthetics, I maintain that they should prepare themselves for this work by taking a medical course. I believe that nurses are employed for this work because they do it cheaper and because the surgeons employing them are unwilling to pay a physician a reasonable fee. It frequently happens that patients are both willing and able to pay a skilled anesthetist and yet such service is denied them by the surgeon.

As yet this matter has not been passed upon by the courts, but I think it will not be long before some physician, by action in the courts, will make an effort to stop this practice.

I ask your consideration of this matter and trust that any new law which is proposed may have some provision which will more definitely define the practice of medicine in this respect and will limit the administration of anesthetics to the medical and dental professions.

EXISTING LAWS AND LEGISLATION NEEDED IN THE CONSTRUCTIVE CARE OF THE POOR AND MENTALLY IRRESPONSIBLE.*

BY KATHERINE L. VAN WYCK,

GENERAL SECRETARY OF THE CENTRAL COUNCIL OF SOCIAL AGENCIES, MILWAUKEE.

MILWAUKEE.

In earlier years the care of the poor meant giving them what they asked for in alms—either food, money or clothing or all three—and providing a doctor's attention for their physical health, without any thought as to the ultimate results upon the characters of the recipients. The Bible distinctly tells us to "consider the poor", but much of our handling of relief of all kinds has been without this consideration.

Modern charitable work termed "constructive care" aims to do just this, to consider each family's problem with the view to restoring that family to social health, or if not possible so to do, to provide as far as possible such care as will be for the well-being of the family and for the protection of the community against exploitation and an increasing burden. In seeking the cause of dependency, the physical and mental condition of each member of a family is examined that their ability to work and their mental and moral responsibility may be justly judged and right requirements made.

For instance, a large family consisting of father, mother and eight children had received aid from the county for years. The father, a common laborer, intemperate, complained of poor health and had the sympathy of his family; two older boys worked occasionally and thought they were not well. The mother discouraged, begged easily upon the excuse that the men in the family were not well

enough to do steady work. The mother, after husband and sons were examined by a physician, believes that they are able to work. All help has been withdrawn by the county.

You will readily see that the social worker seeking the rehabilitation of this family was helpless without the decision of the physicians as the basis for judgment as to ability to work. Now the law governing the provision of medical service to the poor is ample but the practice in many counties is to farm out the medical care of the poor to physicians, not of the best standing—whereas no man is so in need of the best the community has to give, as the poor man whose family is dependent. This practice as well as many another has come about because of the old theory of charity as *alms,* not as a constructive plan to place the family on its feet in the shortest possible time. In the law for the care of the sick poor in their homes, we need no change —but only a change in the practice. When it comes to hospital care we *do need* a change to allow those, who own a small, limited amount of property to be admitted to the county hospitals and also to permit those who can do so to pay something for their care.

An old lady having a life interest in a homestead was sick and penniless. The house was so out of repair that it could not be rented. Alone in midwinter without fire or food, she was when found sent to the County Hospital. In a day or two she was returned to her home "because she owned property". Appeal was made to the Probate Judge who upon his own responsibility committed her again to the County Hospital although he said it was technically against the law.

In the investigation of the families many feeble minded persons are found by the social workers of every city and town in the state. Besides the imbeciles and idiots easily known, they know of numbers of men and women, evidently of the high grade feeble minded or "moron" type, who are drifting about unable to work for any length of time at one place or in one occupation. Suffering all the privations of an irregular existence, they are unwilling to and incapable of accepting guidance and are a menace to the community, in danger from immoral conditions, the prey of the unscrupulous and a danger to their associates; some are petty criminals, others drink to excess; some are single and some are married, many are bringing children into the world.

Some of them are at first appearance bright enough and seem quite normal. Only *continued* observation or acquaintance will reveal the mental incapacity. A few moments thought brought to mind twenty-four such persons known to the Associated Charities workers of Milwaukee. The records contain many more feeble minded.

A change in the law is needed to allow the compulsory commitment of these without the consent of the parents, after proper examination and determination in cases when it is necessary for the protection of the other children and the community.

Another great need is a new definition of insanity, or a new interpretation of the law for the commitment of insane persons. The interpretation used at present was given by Judge Ryan in 1857 and is to the effect that the person under examination must have "delusions" in order to be adjudged insane. Great advances in detection and treatment of insanity have been made since that time. Experts upon mental troubles have told me that when an insane person has reached the stage where there are delusions, he is nearly always incurable. It seems to be a very cruel thing to continue this interpretation and deprive those who might be cured of the opportunity of earlier treatment.

Some physicians have found such a person medically insane but not legally insane.

A former alderman who was worth about $50,000 has become obsessed with the idea that everyone is immoral. He has accused his wife and two daughters 15 and 17 years old and turned them out of the house. Investigation showed not the least foundation for such a charge. He turns his tenants out of his buildings and they now stand vacant. His property is being wasted. An action was brought for examination into his mental condition—he was found not insane within the meaning of the law.

Only those working with the families for constructive purposes can realize what a demoralizing influence the presence of a feeble minded or insane person is in the home. In the homes of the rich or well-to-do which provide some privacy it is a hardship, but in the crowded quarters of the poor, the constant influence of the abnormal life upon the children who are often terror stricken, is burden which is a tragedy. It would seem that not the judges or the lawyers but the physicians, *especially* those whose specialty is the treatment of mental or nervous troubles, would be the ones to decide what determines the sanity or insanity of a

patient and that, after a sufficiently long period of observation to insure a just decision; that if a person is medically insane, he should be legally insane also and cared for on that basis. The movement for this change, either in the law by the legislature, or in its interpretation by the courts, should come through the action of the physicians. It would have much greater force coming from them than from the laymen.

One does not often have the opportunity to speak to so many physicians at one time and so will you pardon me if I bring one other matter in this connection to your attention?

It is this: Many persons both men and women who have been insane and are convalescent are released on parole and allowed to return to their homes. As a rule the conditions in the home are not previously investigated and the released individuals go home to be a burden to the grown people and a bad influence for the children—often the bread-winner is the over-worked mother and the partially recovered insane father comes back to be an added burden for her to carry, or if it is the wife, to the care of children who are better off without her; and worse than all, little babies are born who should never have been brought into the world under such circumstances. Time is too short to tell you of the many horrible consequences of this kind that have come to the attention of the Visiting Nurses, Associated Charities and the other Social Workers of Milwaukee.

One physician here present with whom I spoke of this, said, "but the doctor's duty is toward his patient, he must advise what is best for him." To the Social Worker it seems that the duty of *all,* including physicians, is the greatest good to the greatest number and particularly the greatest good to the children.

If it is best and necessary that convalescent insane persons should leave the Hospital on parole, then a place (be it a farm, a boarding place, or some other arrangement) should be provided, and they should not be returned to the family and to the community life until fully recovered. A recent instance came to my attention.

A man became insane 16 years ago and was committed to the Hospital for the Insane. There are several children in the family older than 16 years—there are some younger—one of these is admittedly the child of the wife and a boarder who has lived with the family for years. The woman states that the other two younger, are the children of the insane husband who was allowed to visit his home occasionally. When the Hospital was appealed to, to corroborate her story it was stated that no absences of less than three days were recorded. Hence the society to which the woman recently appealed for aid, is at loss to know whether to treat the family upon the basis of a woman who made one mistake many years ago and regretted it as she claims, or one who has been living for years in illegitimate relations and is lying about it, and the paternity of the children cannot be determined.

Now a word as to the practice of determining insanity. The recommendations of Dr. Gorst made last week in Racine at the State Conference of Charities and Correction and the paper of Dr. Lorenz concerning the new Psychiatric Institute to be established under the State Board of Control were the first rays of light betokening a new day in Wisconsin in the handling of mental disease and deficiency.

The general practitioners have not qualified (and I say it with all respect) for the detection and treatment of mental disease and many of them are unable to diagnose incipient insanity and high-grade feeblemindedness.

In the near future I hope many physicians in the state will avail themselves of the new Institute and turn their attention to becoming experts in such diagnosis. Certainly there should be one such expert in each county and counties having a large population, where there are many mental cases, should have a commission of mental experts whose business it should be to examine all persons coming before the courts for inquiry as to their mental condition, instead of the present haphazard choice of physicians without reference to their equipment for such work.

Against one plague the best physicians of this state have taken a splendid position and have helped educate the laity for their own and their children's protection. Another plague must be fought and it is "up to" the physicians and social workers of this country to carry on this campaign as effectively as they have that against Tuberculosis. I refer to the plague of Venereal Diseases. These diseases are admittedly contagious, most horrible in their results, being responsible for large percentages of the number of the insane, feeble minded and paralytics, to say nothing of the burden to society and loss to the economic world.

Persons of all ages and both sexes are victims and unfortunately those who are innocent of wrong

doing are almost as numerous as those whose condition is the result of their own vices. Far worse than small-pox, scarlet fever, etc., which are required by law to be reported at the local Health Department, the Venereal diseases are not.

We should acknowledge their alarming prevalence, stand for a law requiring the physicians to report them locally and begin our fight in the open. The reports could be made by number with the name of the physician.

Now a law would be of no effect unless the physicians uphold and believe in it. Again we come into conflict with precedent,—the confidential relation of physician and patient *vs.* the duty of the physician to the community and society in general, but if only numbered reports were given with initials perhaps, the confidence would not be violated.

Two instances will show the need of frankness.

1. A widow and six children did not respond well to careful feeding and were no sooner out of one bad physical condition then another one developed. After six months of work, expense and worry, the society having the family in care had the Wassermann test made and all seven were reported mildly but distinctly syphilitic. Being treated on the new basis the family is responding.

2. A man was sick in one bed, his wife lay in another with a babe a few days old, there were three other little children in the house. A visiting nurse was called, and was using hot applications upon the man. The woman had been delivered by a mid-wife—but a doctor had been called afterward as the baby's eyes were bad, a neighbor was looking after the woman. Deciding that a practical nurse was needed, the visiting nurse called a charitable society which has such a nurse for maternity work, she went at once.

Twenty-four hours afterward the agent of the society succeeded in reaching the doctor. When asked what was the matter with the man he replied: "A very bad case of gonorrhea," yet two nurses were there and going to other cases in *absolute* ignorance of the contagious nature of the trouble.

After some effort we have succeeded in securing through the Marquette Medical Dispensary clinical treatment for such cases coming to the attention of the social agencies of Milwaukee.

Until we can have cases reported locally and gather satistics as to their number, fatality, etc., we have no definite basis upon which to build our campaign.

We may as well begin, for, if we wish our nation to stand and progress, we must avoid the cause of decay which was responsible for the downfall of several of the older nations of the earth. Our fresh America bred strong bodies and great souls from the finest stock of the old world, grown virile under pioneer conditions; today a large part of our immigration is from the lowest strata of other nations—many men come without their families and we have an entirely different condition facing us. If we leave it alone, it will not leave us alone, and from the contagion not even the most virtuous are exempt.

Recently a woman with a bad case of syphilis in contagious stage with eruption on her hands, was doing washing for private families in her home, and another in similar state was found peeling potatoes in a hotel kitchen.

It is to the physicians we must look, upon them is the responsibility laid because of their knowledge, for the taking of such legal steps as are necessary to organize the work, and the social workers of the state stand ready to co-operate in every way possible.

Another factor with which charity workers have to deal is the unmarried mother and her child, her situation and protection. In Milwaukee in 282 cases of illegitimate births recorded in one year, the birth certificates gave the names of the fathers in only about 50% of the cases. Under the Wisconsin law the illegitimate child is an heir to the father's property, yet we allow the innocent child to be unprotected and when he comes to the years of discretion he has no means of establishing his identity. To be sure in many instances both parents are poor, but the law at least, should lay the burden of parenthood on man and woman alike and the child should be protected before anyone else.

Our housing laws need revision both as to construction and sanitation, but these are quite as much the business of the social worker as the physician and as work is already in hand for the amendment we will only ask the backing of this Society when the time comes.

In all these matters in times past the physician's view has been individual and not social, such was his training, and his absorption in cures diverted his attention from prevention.

The social era is now on and the physician will soon become rare who is content to go into a house

and look at his patient and not look over the family's situation and know whether the carrying out of his directions is a possibility and whether the case is a menace to the other members of the family or how it connects up with the general social conditions of the town. He will know all the social resources of the community which he can call to the aid of the family and will work in co-operation with the agencies seeking the family's restoration to the normal life.

Must we not all cease to be concerned with the individual alone, and remember we and he are a part of the whole community and so relate our activities?

*Read at the Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 9, 1914.

DISCUSSION.

DR. C. A. HARPER, Madison: Just a word in the way of slight correction of the very excellent paper of the essayist for fear that the statements made therein might mislead the physicians present as to their responsibility in reporting venereal diseases. The legislature of 1913 passed a law requiring that venereal diseases be reported directly to the State Board of Health by number, and calling also for certain other statistical facts in that report. The report is required quarterly. The law confines the work for statistical purposes at the present time, and blanks are sent out with return stamped envelopes, every quarter, to every physician in the state. So, for fear that the physicians might forget it, I take this opportunity of making that correction, and trust that the effect of the paper upon you will be the means of having every one of you report fully and freely. This is the entering wedge to find out existing social conditions along that particular line, and is based primarily from the statistical standpoint.

MRS. VAN WYCK: I accept the correction, with gratitude.

DR. CARRIE A. FROST, Chippewa Falls: Mrs. Van Wyck, in her paper, has touched upon a lot of the sore spots in the laws of our state. It is an excellent paper and we trust many of the suggestions will, in the near future, be brought into effect. It is not our purpose to discuss all the points but we shall hold ourselves strictly to the inefficiency of the laws concerning the release of inmates from the Home for the Feeble-Minded. Among these inmates it is the class of moral delinquents that cause us the most anxiety for they are the ones that the general public can so easily forget "have a history," and as they seem from outward appearances "all right," they see no reason why they should not be given their freedom.

During the past eighteen months our institution has had fifteen cases from this class brought into court for trial for release. In these fifteen cases only one was a boy. Of the remaining fourteen, all of the girls were of the child-bearing age. They can go out and increase their number indefinitely, and you will find the moral delinquent very prolific since they realize no responsibility except to satisfy their own desires.

The methods of restricting the increase in this class are three in number: Marriage regulation, Surgical operation, and Sequestration.

The usefulness of the marriage law in actual prevention, is somewhat limited as it is doubtful if it will be legally operative, except in cases where one of the contracting parties has been actually declared feeble-minded, epileptic, or insane by the methods prescribed by law. It can do no possible harm, however, and it does limit misfortune to some extent. It is well to stamp these offences against social welfare with this evidence of public disapproval.

Surgical interference will prove a most valuable preventative in selected cases where sequestration cannot be made permanent.

Unfortunately, the provision for their permanent sequestration is incomplete. They are sent to the institution for the feeble-minded. There is no other place. After their commitment the law permits a re-examination, at any time, to see if they have recovered from this permanent defect, and although few lawyers will engage in such business, still one can occasionally be found where the love of money outweighs any moral consideration. It is difficult to persuade a jury that these intelligent looking girls are proper subjects for extended care.

From the Wisconsin Home for the Feeble-Minded there has been discharged a girl who murdered her illegitimate child, and never, at that time or since, has she showed a trace of genuine remorse, and whose actions, as reported at present, are liable to result in a duplication of that tragedy.

Again a girl has been released who bore an illegitimate child and afterwards had puerapal mania for which she was sent to Mendota. Improving after six months treatment she was paroled, when she again became pregnant from the same source. This shows how little impression the first offence had left with her. Not long after the birth of the last child friends urged and finally secured her discharge. What will be the outcome, time alone will show.

Another one of these cases, was a woman who bore four illegitimate children in a little over four years. She came to us at the age of twenty-five and was released when thirty-nine. During that time she seemed absolutely devoid of shame and kept us constantly on the alert to prevent her arranging meetings with male inmates. Just previous to her discharge by the court, she was making an effort to correspond and arrange meetings with an epileptic boy of about half her age, ending the letter with "many kisses" and signing it "Your loving wife." The consequence of their meeting could easily be imagined.

The lawyer who secured the discharge of these and several other cases of the same type recently brought a list of eight others that he asked to see. All of these cases which I have cited and others that have been tried were girls of mature age, with a single exception and

practically all were cases of moral degeneracy. The only obstacle in the way of reversing the action of safe-guarding these girls is the opinion of the examining physicians. Their examination of the mental capacity of these subjects is, from the nature of the circumstances, necessarily brief. If they remand them to the institution, the matter can be at once referred to a jury of men who have no opportunity to acquire any knowledge of the subject, and whose sympathy naturally goes out to the girl who "looks all right," and they are apt to give that girl what is termed "another chance"; a chance to increase her moral degradation and bring into the world one or more beings to lead a life of poverty, suffering, or crime; a chance which she will hardly fail to use. Our experience leads us to feel this law ought to be strengthened, if possible.

A CLINICAL TOUR THROUGH EUROPE.

BY EDWARD EVANS, M. D.,

LA CROSSE.

Sailing from New York on the steamship Oceanic, which has recently been wrecked off the coast of Scotland, we landed in Cherbourg on June 20th after an uneventful voyage which was rendered interesting and fairly instructive on the way over by the holding of two meetings by the surgeons of the tour in the smoking room of the steamer. At those meetings, papers were read by different surgeons of the party and the discussion following was rather generally joined in by the members.

The party was a large one, numbering some two hundred, of whom one hundred twenty-five or more were doctors from various parts of the United States, some forty odd states being represented. Of these there were only about twelve members of the Western Surgical Association and not so many perhaps of The Surgeon's Club of Georgia, these two societies being the ones which got up the tour, Dr. Percy of Galesburg, Illinois, being President and Dr. Harbin of Rome, Georgia, being Secretary.

From Cherbourg, which is interesting because of its old sea wall, mounting many antiquated cannon, the party proceeded at once by Special Train, to Paris.

June 22 went to Hospital St. Antoine, hoping to see Le Jars, but he was not able to be present. We saw a very interesting dissection of a cyst of the pancreas done by Dr. Labey, First Assistant to Ricard. After this Dr. Doleris, professor of obstetrics, showed us through his wards and being able to speak very good English, made the ward walk very interesting.

On this evening a reception was given to our party in the rooms of the medical faculty of Paris by the faculty and their ladies. It was rather a brilliant affair, and it was said to be the first time that the medical faculty of Paris had ever given any such reception as this in their rooms.

June 23 visited the Hospital Broca of which Professor Pozzi is Chief. He speaks perfect English, has been in America more than once, and so is very gracious to Americans.

Before going through the hospital and to his surgical clinic, he showed under miscroscope, sections of a dermoid of the spinal cord, which was very interesting.

The wards of the Broca Professor Pozzi has endeavored to make pleasant and artistic by having mural paintings on the walls, done by good artists. This reminds one of the decoration of the hospitals of the middle ages when every attempt was made to make them beautiful by having the walls decorated often by the best artists in the country.

In the operating room, Professor Pozzi operated for retroversion, doing what he called his operation for it, which was really a Gilian. After this he did an abdominal hysterectomy, then an ovariotomy.

Pozzi observed splendid asepsis, is a careful, but rather slow operator, gets along without much assistance and it is interesting to notice that he does all his sewing with a handled needle.

June 24 Professor Hartmann gave a clinic at the hospital Laennec. He did an appendectomy, an abdominal hysterectomy, and a pylorectomy and a posterior gastro-enterostomy.

Professor Hartmann is a neat, precise and most careful operator, doing splendid work and very expeditiously. He is just such a man as you would conceive him to be from reading his work on gynecology. After his clinic he demonstrated a method of making aseptic foul ulcers by superheated air on a case of diabetic gangrene of foot. He spoke good English and was very affable.

After his clinic, Professor Landouzy showed us through the part of the hospital devoted to tuberculosis; explained the method of conducting their clinic both for in and out patients, going rather fully into their system whereby they endeavor not only to care for the tuberculous but also to educate them and this education is carried into the homes by a system of visiting. Those patients who are able to come to the hospital are kept in open air pavilions during the day and fed two good meals,

coming early in the morning and going home only before sun-down in the evening.

June 25 the party went by Special Train (which, by the way, we had during the whole tour because of the size of our party) to Bern. We were fortunate enough to get there in time to see the sun set over the snow capped Alps to the west and especially were able to enjoy the beautiful afterglow.

June 26. In the morning Kocher assisted by his two sons gave a splendid clinic showing many cases amongst which were, of course, many who had been operated on for goitre. There were also numerous cases of general surgery, such as excision of the spleen, gastro-enterostomy, etc., shown. I remained at his clinic only for two operations for goitre, one done by himself and one by his son, under local anesthesia. The clean, exact work done in this clinic is what strikes one most forcibly. There is no hurry, no great speed, but everything when finished is artistically completed.

In the afternoon we went by train and boat to Interlaken to visit the Jungfrau, which we did on the 27th, thus missing Sauerbruch's clinic at Zurich, which they report as being a wonder. He did an extensive exsection of the ribs for an old empyema under local anesthesia with lightning rapidity and splendid technique. We felt well repaid for missing this, however, by the wonderful ride up the Lauterbrunnen Valley and to the top of the cog-wheel railroad, which takes one up to within fifteen hundred feet of the top of the Jungfrau and gives a wonderful view of the very heart of the Switzerland mountains from the crest, between the Jungfrau and the Munch, where the tunnel opens out upon the everlasting snow. The Glaciers falling away in one direction, give a splendid view out over the Lauterbrunnen Valley and in the other into a valley of eternal snow and ice.

In the evening we went over the beautiful Brunig Pass to Luzerne where we spent Sunday, the 28th, going in the late evening to Zurich to rejoin the party.

June 29. A long, tiresome ride through a beautiful country however, from Zurich to Munich.

June 30. The clinic we were to have at the Polyclinic did not materialize. Instead we had the grief of listening to a lecture in German to students on orthopedics. A little later in the day, however, we were well repaid for the morning disappointment by witnessing Dr. Ach who is assistant to Von Auger, do some operations. (1) a goitre operation; (2) a fixation of the kidney by an original method. He took a strip of fascia lata from the thigh and after exposing the kidney and incising the capsule on the front and back, and raising it up from end to end, he passed this strip of fascia under the capsule and attached it at each end to the fasia of the loin, cutting off the redundant fascia, thus forming a sling for the kidney. He said in the number of cases in which he had done this operation (yet less than a score) every one had been successful. (3) He removed an appendix.

Dr. Ach is an exceedingly rapid operator, very expert, requiring only little assistance and being the most facile tier of ligatures that I have ever seen.

On the morning of July 1, we visited the Swabing Hospital, which is the new city hospital of Munich. It is built on the pavilion plan; the grounds embrace more than forty acres. The buildings cost more than sixteen million marks. It is intended for some six hundred patients. Each pavilion has a ward for twelve patients, one for six, a room for two and also for one patient, where isolation can be carried out. It is provided with every conceivable requisite for the proper treatment and for the sterilization of all bedding, and clothing in such a way as to prevent any possibility of infection spreading, though it should be carried in by the patient. It is provided also with all sorts of electric and X-ray outfits, all sorts of baths, including mud and sand and electric, Russian, Turkish, etc. And the sun parlor is cooled in hot weather by a constant flow of cold water over its roof and walls, which are of glass. There is a splendid pathological building in charge of an expert. All those requisites and accessories are provided in spite of the fact that it is not a teaching hospital. The operating pavilion is splendidly fitted up with every requisite for convenience and scientific work.

Professor Brunning (?) operated on two goitres after we were conducted through the hospital; and some of his assistants were also operating in other rooms in the surgical pavilion.

On the afternoon of July 2 we went from Munich to Vienna, going through a wonderfully fertile and well-cultivated argricultural country, on the way passing the estate of the Archduke who had been murdered a day or two previously and where he was burried two days later.

On Friday, July 3, Professor Von Eiselburg gave

a clinic for our party, showing a great number of cases on whom he had previously operated.

The first three shown were cases which had been successfully operated for stab wounds of the heart. He then showed cases on which splenectomy had been done (some five in all), one for pernicious anemia, one for hypertrophic cirrhosis of the liver, one for hemolytic jaundice, two for Banti's disease.

He then demonstrated some cases, illustrating treatment of fractures of the extremity by Hackenburch's extension apparatus by means of plaster of Paris and screw extension embedded in it. He then showed a variety of tuberculous conditions which he now treats very extensively by the X-ray.

He also showed two cases of congenital myxedema which had been treated by thyreo-protein and implantations of thyroid glands with some improvement in each case.

He then operated on two cases of cancer of the pylorus doing a gastro-enterostomy.

Von Eiselburg speaks excellent English, is exceedingly gracious to visitors, impresses you as being very conscientious as well as scientific; and is a very clever, careful and expeditious operator.

After this clinic we visited Schauta's clinic in the splendid new Frauenkranken House, and saw Schauta do an abdominal hystorectomy for fibroid uterus through a transverse incision.

Schauta is an old man, very shaky, shows evidence of apparent high living, and now does very little work. After his operation, his assistant did a Wertheim for prolapse.

July 4 Professor Hochenegg gave a clinic. He first lectured on extirpation of the rectum for cancer by the sacral route, going over his statistics embracing some one hundred and fifty cases. He then showed some operated cases of stricture of the esophagus, an esophageal spasm and other interesting cases. Two of his cases were exceedingly interesting. They had been operated for impermeable stricture of the esophagus, a new esophagus being formed from the skin of the breast in each case and then connected later, above and below with the esophagus and the stomach respectively. One of those cases was complete and successful; in the other the artificial esophagus had not yet been connected with the gastrotomy wound. After this he excised a cancer recti in two cases. In the first doing an excision and anastomosis; in the second an amputation and artificial anus.

On July 6 we went from Vienna to Dresden. It was a wonderfully beautiful ride through a constantly changing panorama of fertile fields of clover, alfalfa, rye, wheat, oats, barley, potatoes, sugar beets, hops, etc. As soon as Germany is reached and we passed down the bank of the beautiful Elbe one sees evidence on every side of great manufacturing plants. Especially is this true as one approaches Dresden where the smoke stacks of manufacturing plants appear to me to have doubled during the last six years.

Dresden is probably the best-kept and most beautiful city among the large cities of Europe. For whole blocks you will see flower boxes with beautiful flowers decorating every window of the large stores and hotels.

On July 7 we visited the large city hospital on Johanns Strasse where Dr. Crede, of Crede Ointment fame, (who is son of Dr. Crede so well known for his method of placental excision), is in charge. He is a great advocate of collargol as an antiseptic, pouring it freely into the infected peritoneum, etc. He uses it for irrigation of the bladder, stomach, etc. He strongly advocates sennatin (the active principal of senna) for its cathartic effect when given intra-muscularly in one to three ccm. doses after operation and for chronic constipation. He demonstrated the Quartz lamp as used in the treatment of tuberculosis.

July 8 went in the afternoon from Dresden to Berlin.

July 9 spent the morning at Dr. Bier's clinic without seeing anything especially new.

July 10. Clinic by Dr. Franz at the Charite. Did the following operations: (1) fibroid uteri; (2) Cesarian section; (3) Prolapse.

He is an exceedingly expert and rapid operator and could very properly be called brilliant. Dr. Franz says that he has now had some four hundred cases of abdominal section where he has made no preparation of the site of incision other than the ordinary bath of soap and hot water; and his results have been just as good as where he used iodine or where previously he used the more elaborate method of sterilization.

After his clinic he had us conducted through the X-ray department. He says they now very rarely operate for cancer uteri, using the X-ray instead. They use it externally through the abdominal wall, and in one case I saw three powerful tubes played on the one patient. The rays are filtered through 3 m.m. of aluminum. It is used daily for fifteen to sixty minutes and continued until erythema is

produced. Sometimes as many as forty or fifty treatments being given. They do not attempt to measure the dose, but use a very powerful treatment.

July 11, Dr. Bumm's clinic where the following operations were seen: (1) suprapubic extra-peritoneal Cesarian section. This was the second Cesarian section on this woman, which rendered the extra-peritonal route difficult. He chose this, however, because the woman had been in labor for some time, had some fever, was probably infected, and so would be dangerous for transperitoneal operation. (2) Vaginal Cesarian section for eclampsia. The woman was brought in in convulsions, was in a bad way and needed quick delivery. The operation was over in four minutes. Bumm says the treatment for eclampsia is rapid emptying of the uterus at the very earliest moment possible. (3) Hysterectomy for fibroid. He operated because of aggravated and very annoying bladder symptoms. Except for pressing, urgent symptoms he says he practically never operates for fibroid any more, but cures them by means of the X-ray as is also the case with cancer uteri (though "cure" cannot yet be stated positively).

He says that in the last six months operation in his clinic for either cancer or fibroid of the uterus has been very rare.

(4) Prolapse uteri operation. Done in much the same way as we see it in any of the American clinics, by the vaginal route.

Bumm is a wonderfully expert operator; does splendid work; has very able assistants, and an enormous clinic.

In the evening we went to Leipsig and spent the following day, Sunday, in visiting the battle field of Leipsig and the magnificent monument which the Germans have erected there. Probably the biggest and one of the most pretentious monuments in the world. We also saw where Napoleon stood directing the battle on that momentous 18th of October, 1813.

In Leipsig they were having a wonderful International Book Exhibit.

In the afternoon we witnessed a flight of the Zepplin dirigible Sachen. Some twenty of the party taking the trip and enjoying the sensation very much.

July 13, 9:00 A. M., Professor Tillman's clinic at the Children's Hospital. Showed several cases of splenectomy in children, cases of teratomata of the abdomen, tuberculous joints. In these latter cases Tillman is very fond of using Rosenbach's tuberculin and thinks it much better than Koch's. He also showed cases of foreign bodies in respiratory tract.

Professor Tillman, while some seventy-two years of age is erect, active, well-preserved and very interesting in his clinic and ward walk, speaking excellent English.

At 10:30 we visited Professor Payr's clinic. He showed two cases of artificial esophagus, and arthroplasties and a cheap apparatus for subsequent passive movements by the patients themselves.

He then did the following operations: osteoplastic of skull (first step in a two-step operation for tumor). In doing this he used an electric saw, that certainly worked most excellently. An arthoplasty on ankylosed hip. He interposed a detached fat-fascia flap from the thigh.

In the evening reached Jena and were entertained in the Market Platz by Professor Lexer and his wife and staff in a most delightful manner.

July 14. Lexer's clinic. He told us that it was just the ordinary clinic, that he had made no special effort to procure cases for us, as he preferred showing the ordinary routine of his clinical work.

(1) Gastro-enterostomy for pyloric stenosis. (2) plastic operation on face and nose. (3) plastic operation on angle of mouth and lips. (4) Lexer's operation for congenital dislocation of hip. (5) operation for gall stones. (6) operation for pyloric cancer. (7) thyroidectomy.

Between operations he showed many interesting cases and also many interesting lantern slides, demonstrating plastic work especially. Lexer's plastic work is that of a wizard. One case, an American lady on whom he had done I think some seventeen operations, showing not only wonderful perseverance both on the part of the surgeon and the patient, but marvelous dexterity and resourcefulness on the part of the surgeon. She had been badly disfigured by a gasoline explosion. The whole of the skin of the face being destroyed, including the lips, much of the nose and the eye brows. He had restored her chin, made a very presentable mouth, a very passable nose, finely arched eyebrows which were quite presentable, and on the whole, had made her over very well indeed.

He showed also a young man where he had inserted a cold storage knee joint after excision of the diseased one, and the patient could now mount a chair putting either foot up first and step down

off the chair again and, dressed as an ordinary citizen, it would be hard to guess which knee was the one which had been operated on.

He showed several cases where he had treated tuberculous disease, especially of the joints, by means of the X-ray. He does a great deal of work with local anesthesia using novacaine and with the greatest freedom.

Lexer is certainly a great surgeon, and a most pleasant and interesting man. He said that when we came again he hoped we would not come in such great numbers, and assured us that by that time he would be able to talk to us in English.

The evening of July 14th we went on to Frankfort.

July 15th. In the way of clinics at Frankfort there was nothing doing, except an inspection of their hospital which is in some respects very good. It is interesting to note that in October of this year for the first time Frankfort will have a complete university, including a medical department on the same basis and with the same government supervision and encouragement that is given the other universities in Germany.

The evening of this day was spent very pleasantly at the Palm Garden in Frankfort which is probably the most beautiful and well-kept public garden in Europe.

July 16 visited Ehrlich's laboratories in the morning and in the afternoon went to Heidelberg, which is only a short distance south and, besides taking a ride over the Philosopher's Way, visited the famous castle at Heidelberg which is one of the most interesting, as well as well-preserved and huge castles in Europe.

July 17, Professor Wilms gave a very interesting clinic. He first demonstrated his method of connecting the common or hepatic duct with the duodenum by a rubber tube covered with omentum. The method is practically the same as that described by Dr. Sullivan of Madison some years ago. Wilms reports having had six cases where he has done this operation, all successful. After this (2) he operated for gall stones, removed the gall bladder, drained with gauze without any tissue protecting it, and brought the omentum about this very carefully so that one would expect a very painful operation in removing the gauze. (3) He demonstrated mobilization of an ankylosed elbow, interposing a fat flap. This was the second attempt, a previous operation having been done at another clinic. (4) Showed a case where a man had fallen two hundred meters with his aeroplane, suffering fracture of left femur with fracture and dislocation of right knee. Though this was only eight weeks ago, the man was about on his feet, using as support only one stick. (5) Demonstrated case of hip ankylosis with interposition of detached fascia-fat flap. (6) Lantern slide demonstration of cases of congenital dislocation of hip. (7) Lantern slide demonstration of excision of the ulna and radius in middle part for sarcoma, and the repair of defects by grafts from tibia. (8) Showed some of his instruments by which he cuts the scalp and controls the hemorrhage at the same time by a sort of crushing and cutting edge on the instrument which he says does not interfere with healing. (9) Operated for epilepsy. He did an ordinary subtemporal decompression operation and then cut a flap of dura with its base downward. This he turned down outside the skull and under the scalp for the purpose of establishing drainage. He thinks results have been fairly good in children when thus operated. (10) Demonstration of case of ankylosis of jaw in a young girl. Did excision of bone with interposition of fat on each side from the abdominal wall. (11) He next operated for large goitre which had been previously operated seven years ago. It was done under local anesthesia. He left a large mass of the gland as he was careful not to injure the parathyroids on this side as on the other side they had probably been removed at the previous operation. He then gave a lantern slide demonstration of goitres produced in rats by giving them water from certain parts of Switzerland. This can be stopped at any stage of its development or prevented by heating the water to 80 degrees Centigrade. (12) He then demonstrated cases of exophthalmic goitre before and after operation. Wilms thinks that the cause of this form of goitre is not in the gland itself, but possibly in the sympathetic system. In cases in young people he finds the thymus is always enlarged and in these cases operation gives good results. Wilms says that the internists in Switzerland think Kocher's results do not justify his operative procedure. He thinks Kocher does not remove enough of the gland tissue and he takes out as much as possible of the gland. In preparing his cases for operation for this disease, he cuts down the intake of fluid for some days to relieve the right ventricle and after operation gives no fluid for four days and for the same reason he absolutely forbids the giving of salines after opera-

tion. He likes the one stage operation better than doing it in two stages. (13) He next removed a prostate by the subpubic route, using local anesthesia. His incision was made on the left side; was a very small longitudinal incision. Through this he worked his finger down on to the capsule of the gland, then passed in a small, rather sharp-pointed forceps and opened the capsule; through this small opening he then enucleated the whole gland, put in a small drain and had the whole operation finished in less than five minutes. He says the prostatic urethra is always removed with the gland. Before doing the operation he passed a retractor through the urethra into the bladder, resembling very much the Young retractor. (14) He then showed a case of thoroplasty, where he had removed from the first to the seventh ribs through a long, straight posterior incision, inserting in the cavity a large mass of fat to fill it up. This was done for one-sided tuberculosis. (15) He then operated on a case of brochiectasis under local anesthesia, using the same incision, removing the seventh to the eleventh ribs inclusive.

Professor Wilms appears to be about fifty, rather small, quick in his movements, and is a very fast, clear talker and a very rapid and finished operator.

July 18. Wilm's clinic. First, one of Wilm's assistants demonstrated an instrument he had devised for the rapid cutting of plaster of Paris casts, also an instrument for approximating the upper jaws in cleft palate, used instead of Brophy's silver wire and lead plates.

The first case shown by Wilms was one he had injected with alcohol yesterday for "Tic". The patient had slept last night well for the first time in very long, and he said nothing further would be done unless the pain returned.

He next demonstrated a case of femoral hernia. For this operation he makes his incision as for inguinal hernia, frees and ties off the sack, and then puts in a free flap from fascia lata. He does this only in severe cases, and says he has between 12 and 16 cases without a recurrence.

He next demonstrated a case of splenectomy in a child for splenic anemia. Before the operation the white cells were three thousand, they are now twelve thousand; while the hemoglobin has risen from 55 to 70%. He does not operate, he says, if the liver is also enlarged. He likes to use a median incision. If there are adhesions, he first ties the vessels of the hilum, then removes the spleen, leaving pieces of it attached to the parietes, where there are adhesions. He does not do splenectomy for leucemia.

He next demonstrated his operation for Cecum Mobile, by the method so well known to the profession by Wilm's writings. In very bad cases, he says, he resects the cecum, or does an anastomosis to the sigmoid.

He next operated on a case of exaggerated flat foot. He makes an incision on the inner side, and destroys the joint between the scaphoid and the astragalus, so as to produce ankylosis of this joint in the corrected position. He then makes an incision on the outer side of the foot, cuts through the front part of the os calcis, and forcibly separating this incision in the bone he drives in a wedge of bone to lengthen the outer side of the foot, and puts the part up in plaster of Paris bandage. In this case the piece of bone was produced from a tibia he had amputated a few days before and which had been kept in cold storage. He does this operation in severe adult cases only. In this case he had operated on the opposite foot four weeks before with a very good cosmetic effect, at least.

He next did an amputation of a cancerous breast. The whole operation occupied only about eight minutes (excising the breast in three minutes and clearing the axilla in five).

He then did a gastro-enterostomy for cancer of the stomach which had already involved the pancreas and so only a palliative operation could be done.

At the end of the clinic he said: "Now, Gentlemen, I have shown you all my new stunts."

During the two days at Heidelberg the students "pulled off" duels every morning so that many of our party were able to witness this rather cruel and stupid looking performance. The duels take place in an old inn very appropriately located on the Philosopher's Way; and the keeper and his daughter will give you a place where you can look through one of two or three windows on payment of one mark. Some seven or nine duels were "pulled off" in the two mornings. They usually take place on a Friday morning, but there happened to be so many on this occasion that some of them had to be postponed until next morning. Many of the doctors in our tour took advantage of the opportunity and witnessed the rather violent blood-letting.

In the afternoon we went from Heidelberg to Wiesbaden, through a very beautiful country and spent a delightful evening in what is perhaps the

most fashionable and wealthy watering place in Germany.

On Sunday, the 19th, we went down the Rhine to Cologne. On the boat we were met by Professor Witzl of Düsseldorf and some of his assistants with an invitation to visit him next day at his clinic, and afterwards the picture gallery of Düsseldorf.

July 20th, Witzl's clinic. He first operated on a case of appendicitis, and then did an amputation of the leg. There was nothing remarkable about his operations except the extreme care which he took in his amputation to prevent, as far as possible, any subsequent bad results. He laid great stress on resecting the nerves high up, and removing the periosteum very carefully and completely from the end of the bones as well as a little of the endosteum also. He had recently returned from the International Clinic at New York, where he had read a paper on Amputations.

Professor Witzl was very careful in his technique. Not only himself, but his assistants wore a large piece of gauze which effectually covered the head and face and neck. He also insisted on the spectators sitting in the front row in the amphitheatre doing the same, and under no circumstances would he allow any soiled sponge or other material to be thrown on the floor.

After the Clinic his assistants took us in groups through the hospital, and the grounds which are very large, the hospital being built in detached pavilions very much after the manner of that seen at Munich, and at Dresden.

In the afternoon the party was conducted through the great chemical works of Bayer & Company, situated at Lavenkusen, about half way between Düsseldorf and Cologne. This great company, the products of whose laboratories we all know so well, has thirteen thousand employes and a wonderfully organized force where social welfare is carried out very perfectly if perhaps somewhat paternally. In the evening a splendid banquet was served to the visiting doctors; not only was it very sumptuous, but very clever and artistic; and never was it allowed to appear for one moment that it was a splendid plan of advertising, but rather it was constantly insisted on that it was the entertainment of one scientific body by another.

July 21. The morning was spent in an inspection of the Brüger Hospital at Cologne where many cases of fracture, treated by the well-known Bardenhauer method of extension, are shown.

In the continental clinics, and especially the German, one is impressed by the character, splendid technique, and scientific attainment of the Chief of Clinic. He and his assistants work with the percision of a machine. The careful working up of the case and its mastery by the First Assistant before it reaches the Chief impresses one strongly, and there is a spirit of loyalty and cooperation that is bound to produce good results, and train men efficiently for heads of clinics later.

In almost all the operating rooms, the trained nurse is not much in evidence, although in this respect there is a decided change over previous visits to the same clinics; as almost all of them now have at least one or two trained surgical nurses assisting. The nurses on the continent are certainly not of the same class, nor are they possessed of the same training as our American nurses. The contrast between them, and the trained nurse in England is very striking. In England the trained nurse has a rather carefully supervised three years' course of instruction and training, and most of them afterwards take a year's postgraduate work before going into active private nursing.

The hospitals of the continent, especially those that are being built or have been built in recent years, are far and away superior to those in America. Even in the large cities like Munich and Dresden they are built on the pavilion plan in very extensive grounds, giving possibilities for landscaping that is most desirable, and at the same time rendering isolation, ventilation, etc., very much more efficient.

In the afternoon of July 21 we went to Brussels.

On the morning of July 22 Professor DePape gave a clinic at St. Peter's Hospital. He did (1) an exploratory laparotomy, (2) a nephrectomy, (3) a hysterectomy, (4) an amputation of breast for cancer. There was nothing brilliant at all in this work.

In the afternoon the party had the opportunity of seeing a great part of the Belgium army, more than twenty thousand troops, in review before the King of Belgium, and the Lord Mayor of London.

On July 23 we went to Amsterdam. While the trip was somewhat tiresome, the pasture lands and canals of Holland proved very interesting and novel to most of the tourists.

On the 24th, the party took a long ride through the canals of Holland to visit some interesting and historic places, winding up at the picturesque island of Marken. The people of the island are

fisher folk, and still wear the typical Holland costume, including wooden shoes; apparently making their living principally by picturesquely exploiting the tourist.

In the evening we took the train for Flushing and next morning landed in London after the usual pleasant experience of crossing the channel.

The Clinical Congress in London beginning the week of July 27 was attended by a great many American doctors. Unfortunately for the possibility of seeing many of the provincial surgeons of Great Britain, the British Medical Association met in Aberdeen during the same week. Every effort was made by the surgeons of London to give an opportunity to see their work, and a splendid series of clinics were given.

In London, clinical teaching is done in the hospitals in much smaller groups than in the average medical school in America, and consequently the operating room theatres were much smaller, and thus a much better opportunity was given to see the work at short range than is possible at those Congresses in America.

The evening sessions were very much the same as all of us have seen at the various Congresses in this country. They were attended by large numbers, most of the speakers could not be heard except by a relatively small number in the front seats and on the whole they are rather tiresome gatherings.

One of the meetings at London, however, was enlivened by a determined effort on the part of a suffragette to address the assembled members. Finally she was picked up off a chair by an English surgeon and carried talking, out of the hall.

July 27th, clinic at University College Hospital by Mr. Barker. First an old fractured elbow with excessive callus limiting flexion was shown and Mr. Barker chiseled away a mass of this excessive callus without opening the joint and was able to produce a very good flexion. Second, cholecystectomy for gall stones. He used a transverse incision which he seemed to rather favor, and which he thought possessed some advantages over the usual right rectus incision. Third, removed loose semilunar cartilage from the knee joint under spinal anesthesia. He insisted on not cutting the lateral ligament of the knee joint, making the incision low and entering the joint from a subperiosteal point at the head of the tibia. Fourth, hernia operation under spinal anesthesia. Mr. Barker uses for spinal anesthesia stovain, 5; leucos 5; water one hundred. This is put up in ampules 2 cm. each. Mr. Barker has done a great deal of scientific investigation about spinal anesthesia and is an enthusiastic advocate of it in properly selected cases. In work about the extremities especially he liked to use a varnish for the skin over which he draws a sterile stockinette. The varnish is composed of mastic 40; benzole one hundred, castor oil a few drops, applied by means of a spray. The mastic being sterilized before being mixed with the benzole.

In the afternoon saw Mr. Sargent at St. Thomas Hospital. Mr. Sargent is a Junior to Mr. Ballance who has done so much work on nerve suture, etc. He does excellent and neat work, and this afternoon removed a goitre and then did an appendectomy.

July 28th spent the day, forenoon and afternoon, seeing Mr. Arbuthnot Lane. In the morning at Great Ormond Street Children's Hospital he did the following operations.

(1) fracture of femur, plated.

(2) fracture of humerus, plated.

Mr. Lane's work in using his plates is certainly above criticism and were we all as expert as he is, it might be entirely safe if not always desirable to plate every fracture. He then did

(3) hare lip and cleft palate operation and after this

(4) a cleft palate with double hare lip.

His work on the hare lip and cleft palate is so well known that it is not necessary to refer to it beyond saying that he is exceedingly expert and rapid in this work. He uses horse hair throughout.

In the afternoon he excised two colons for his so-called stasis. One may illustrate his extreme views on this subject by relating a case. Patient was a nurse from the hospital, who, he said, because of the extreme good care taken of her, was in much better physical condition than those cases usually are. Reciting her history he said that she had had several attacks of rather severe colic; and as is usually done by the stereotyped, not-too-well-informed medical men, a diagnosis of gall stones had been made. Through a long median incision Mr. Lane proceeded to excise the colon, reaching the hepatic flexure, he found the gall bladder distended by a great number of gall stones. After excision and anastomosis had been made, he said that be-

cause of the gall stones being probably a secondary infection, the result of stasis in the large bowel, he would ignore them. In the second case he did a similar operation, though he did not find gall stones in this case.

Mr. Lane talks very much about intestinal stasis, and what can be accomplished by excision of the colon. It apparently is capable of curing all the ills that flesh is heir to. Goitre of all kinds, rheumatoid arthritis, tuberculosis in all its forms, and every other conceivable condition vanish not only completely but exceedingly rapidly after this procedure. As for instance, the case of tuberculosis of the wrist joint where the carpal bones were very seriously involved as demonstrated by X-ray, began to clear up the day after he excised the colon, and was well in a magically short time. About the only thing that he did not mention as being cured by excision of the colon was Hay Fever, and being a sufferer from this myself, I did not care to make inquiries about the efficiency of this treatment for its cure, as I felt certain he would attribute it to stasis and logically the cure should be taken forthwith.

Mr. Lane certainly has the courage of his convictions, and there is probably a grain of truth hidden under his immense claims.

July 29 we saw Mr. Smith at St. Mary's do an excision of a semi-lunar cartilage, remove a renal calculus from the kidney, and do a gastrostomy. His work was fair, and not at all remarkable. At 11:30 Sir Rickman J. Godlee gave a talk at the Royal College of Surgeons and exhibited instruments and specimen chiefly from the Hunterian Collection and gave many interesting reminiscences of Mr. Hunter and other great men who have been members.

In the afternoon we saw Mr. Berry operate at the Royal Free Hospital to which is attached The Women's Medical School of London. Mr. Berry operated first on two cases of goitre and then did a cleft palate operation. Contrary to most operators, Mr. Berry does not care to operate very early on cleft palate, as do so many of the other operators, especially our own Brophy of Chicago. He likes to choose from ½ to 1½ years for operation. Mr. Berry, who does a great deal of surgery, is rather interesting inasmuch as he himself suffers from a cleft palate, as well as from a club foot.

July 30th we saw Mr. Patterson operate at the Temperance Hospital. He first did an excision of the colon. Mr. Patterson is a follower of Lane to a rather pronounced degree, though not so radical in his claims, but he thinks it safer to do a two-step operation; first making his anastomosis of the ileum to the sigmoid, and at a later date excising the colon as he thinks the risk is too great in doing the operation at the one sitting; whereas Mr. Lane feels that it is entirely safe, provided you use a subcutaneous salt solution during the operation. The second operation was one for anastomosis of the ileum with the sigmoid. He does a side-to-side anastomosis of the ileum, whereas Mr. Lane does an end-to-side. He is a very neat operator, and uses very little assistance in his work, and in all clean cases uses linen, never catgut.

In the afternoon we went to the Middlesex hospital, and saw (1) a Cesarian Section with panhysterectomy for cancer of the cervix. It was a full-term child, and it was saved. The second operation was a Wertheim for cancer of the cervix. The work here was good.

July 31 we saw Mr. Sargent at The National Hospital for the Paralytic and the Epileptic, remove a cervical rib. He made a beautiful, clean dissection. He showed a number of cervical ribs which had been removed, and spoke of the fact that it is not the bony cervical rib that causes the arm symptoms in those cases but rather the fixing of the soft parts, the fibrous tissue and scalenus muscle to this rib and causing pressure on the nerves and vessels that give the disturbances, and that in removing the rib it is very essential that careful, free dissection of those soft parts be made, so as to not again interfere with the function of the nerves, and thus prevent recurrence of the symptoms.

The senior surgeon of this hospital, Mr. Edwards, first operated, doing the following operations:

(1) Suprapubic cystostomy with drainage as the first step in a two-step operation for hypertrophied prostate.

(2) Internal urethrotomy.

(3) Litholapaxy for stone in bladder.

(4) Prostatectomy suprapubic.

These operations were very skillfully done, especially the stone crushing operation; but with a rather marked disregard of antiseptic or aseptic precautions.

Mr. Freyer did two suprapubic prostatectomies.

He does them rather expertly, but asepsis is rather a negligible quantity. For instance, if the patient were not lying exactly straight on the table he had no hestitation in straightening him up with his ungloved hands and then taking up the knife and making the incision. In enucleating the prostate, he did it entirely with the index finger of the left hand, using the same finger of the right hand in the rectum to push up the prostate. This right hand was never gloved and the washing he did subsequently before doing the next operation certainly would not be considered by any of us sufficient to allow us to eat our dinner afterwards with pleasure.

After removing the prostate, he vigorously massaged the site from which it has been removed, by the finger in the rectum, using one or two fingers in the bladder at the same time to press down the mucosa of the bladder against the operating finger in the rectum.

He then introduces a large drainage tube about which he very closely inverts the skin. He says he practically never has any troublesome hemorrhage and says his results by suprapubic operation are better than can be attained by subpubic.

The Clinical Congress ended on Saturday. Sunday evening at midnight the British ultimatum to the German government regarding Belgium neutrality expired, and on Monday mobilization was already actively prosecuted, a four-day Bank Holiday had been declared; and the American contingent in London had other things to think of.

ABSTRACTS

Ocular Disturbances in a Case of Myxedema. Dutoit, A., Montreux. (Zeitschr. für Aug., 32, August, 1914, p. 139). In myxedema the following ocular affections have been occasionally observed: parenchymatous keratitis, cataract, retinal hemorrhages, chorioiditis, neuroretinitis, unilateral or bilateral atrophy of the optic nerve, hemianopsia, nyctalopia. D. reports in detail the following case: a man, aged 25, of healthy parents, showed in his youth no symptoms of myxedema. His eyes were always weak from early childhood. From his 12th year his vision grew worse, and when examined for military service he was practically blind. He presented the characteristic aspect of myxedema. The thyreoidal region showed nothing abnormal, but his genital organs were infantile, the scrotum contained only one hard nodule of the size of a cherry stone.

The lids showed a constant tremor, were tightly closed, tense and hard. When they were forcibly opened, the cornea could be seen for moments, the conjunctiva was thickened and edematous. Ocular movements slow and hesitating, convergent strabismus especially of right eye. Pupils enlarged, scarcely responded to light. Both eyes showed posterior cortical cataract, chorioiditis, larger and smaller black pigment spots all over the retina, optic disc sharply defined, white, retinal vessels very narrow. Wassermann negative. The urine contained traces of albumen and sugar. Hearing diminished.

D. assumed a polyglandular disturbance in the sense of Brissaud, and attributes the ocular changes to lack of activity of the thyreoid gland. While in certain cases of myxedema and after thyreoidectomy a hypertrophy of the hypothysis was observed, so that the optic atrophy could be ascribed to its pressure, the Roentgen rays showed in this case no changes of the sella turcica or hypophysis. Hence D. considered the atrophy of the optic nerves in this case also as a co-ordinated phenomenon of thyreogenous autointoxication. D. finally mentions that atrophy of the optic nerve may also occur after treatment with thyreoidin.

C. Zimmermann.

Choked Disc from Syphilitic Meningitis Cured with Mercury. Observation of 34 Years. Hirschberg, J., Berlin, (Centralblatt für prakt. Aug. 38, Juli 1914, p. 197). In 1879 a man, aged 31, had to hurry home from his wedding trip on account of violent headache, convulsions and attacks of loss of consciousness. H. found old lues with affections of the bones, recent choked discs, more marked in right eye. VR 1/3 VL 1/2. After energetic mercurial inunctions vision became normal and the choked discs subsided, but there was diffuse retinitis. His treatment was continued for years. May, 1897, he returned with paralysis of the left abducens and paresis of right internal rectus, no diplopia. This was better in 1905, but the urine contained 0.12% sugar and albumen. Dec., 1913, i. e., 34 years after the severe symptoms of meningitis, he was perfectly well, aside of a slight paresis of the left abducens. V., visual field, and fundus were normal.

C. Zimmermann.

A Case of Neuoparalytic Keratitis Following an Injection of Alcohol into the Superior Maxillary Nerve in Facial Neuralgia. Dutoit, A., Montreux. (Zeitschr. für Aug. 32. July, 1914, p. 26). Four days after an injection of alcohol into the right superior maxillary nerve from the peterygomaxillary fossa of a man. aged 40, a superficial loss of substance with slight opacity of the parenchyma of the lower temporal quadrant of the right cornea developed with complete anesthesia of the cornea, conjunctiva and skin of the lids. Under instillations and subconjunctival injections of dionin 5%, respec. 1%, the affection healed, so that about 6 weeks later, D. ventured an injection of alcohol into the ophthalmic nerve at the supraorbital fissure with good results, and subsidence of the facial neuralgia. D. explains, with van Lint in a similar case, the peculiar complications by a destructive process in the ganglion Gasseri in consequence of the injection of alcohol.

C. Zimmermann.

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EDITORIALS

THE PROCEEDINGS OF THE SIXTY-EIGHTH ANNUAL SESSION.

It is a great disappointment to have to report that the Abstract of the Proceedings of the House of Delegates, which is usually published in the issue of the WISCONSIN MEDICAL JOURNAL following the meeting, is not yet in readiness. This has been due to unavoidable delays in the transcription of the notes of the reporter of the meeting. We are promised that the abstract will be finished in time for the December Journal.

FOOT AND MOUTH DISEASE.

So much is appearing in the daily press on the subject of the present epidemic of Foot and Mouth Disease and so many questions regarding it are asked of physicians that it is well for us to have some information available and to be prepared for the questions when they come.

In the Bulletin of the Chicago Medical Society for Nov. 14, 1914, there is given a brief but very clear description of the condition which is so good that we are quoting it almost verbatim.

Foot and mouth disease is an acute infectious disease; it is transmitted from animal to man and in the human shows the same manifestations as in the bovine.

In cattle the incubation period is usually five or six days, though many cases occur in three days and others in twelve to fourteen days. The disease is usually ushered in with an abrupt rise in temperature of 104° F., yet many of the cases are a-febrile through the attack.

There is increased salivation and redness of the mucous membrane of the mouth, upon which in two to three days there appear small vesicles, which are at first filled with a clear fluid, which becomes rapidly more and more turbid. The vesicles increase in size and rupture in twenty-four to seventy-two hours, leaving ulcers which heal in the course of a week. These changes may occur upon the nasal mucous membrane, the conjunctiva, the vagina, the udder and teats. Simultaneously with the eruption on the mucous membrane there develops upon the skin about the crown of the foot a very painful inflammation which is followed in twenty-four to seventy-two hours by the eruption of vesicles which follow the general course of the lesions of the mucous membranes. In humans the site of selection of the skin lesions is the forearm.

The disorder runs its course in ten to fourteen days. That foot and mouth disease is transmissible to man has been known since the end of the seventeenth century; the transmission from man to animal was done experimentally in 1893.

The infective agent is unknown, though the investigations of Löffler and Frosch have shown many of the properties of the infectious agent of foot and mouth disease.

The virus of foot and mouth disease is present in large quantities in the vesicles; it is also found in the saliva, in the milk, in the urine, and in the feces. The virus is present in the blood from the rise of temperature to the appearance of the rash.

The investigations of Löffler and Frosch show that the organism is ultra microscopic, that it will pass through porcelain filters; attempts to cultivate upon the ordinary media have proven unsuccessful. The virulence of the virus is retained for a long time, being capable of infecting animals after remaining in stalls, dung, etc., for months. A temperature of 140° F. for thirty minutes diminishes the virulence of the organism, but a temperature of 158° F. for thirty minutes is necessary to destroy the organism.

Hertwig's experiments prove that not only raw milk, but insufficiently cooked milk may be the carrier of the infection. The milk is especially infectious during the febrile, pre-eruptive stage.

Children are far more frequently affected than are adults. Foot and mouth disease is a serious disorder in children; symptoms of the alimentary disorder may give rise to serious damage. In an autopsy of a child by Zurn there were numerous aphthous ulcers of the intestines; Demme found discolored, cuneiform foci in the liver.

The diagnosis of foot and mouth disease rarely gives rise to much difficulty as soon as the characteristic changes upon the skin and mucous membranes take place. Confusion with stomatitis is possible; Ebstein and Stierlin inclined to the view that aphthous stomatitis may be caused by the virus of foot and mouth disease. The similarity of this disease to varicella may cause some difficulty in diagnosis, especially as occasionally vesicles appear upon the tongue in varicella.

Ebstein remarks upon the ease of mistaking foot and mouth disease for measles because of the conjunctivitis. The early rapid rise of temperature with the erythema which frequently appears may cause an error of diagnosis with scarlet fever.

In the case of foot and mouth disease we are dealing with a poison which is effective against man for three to four days before the outbreak of the disorder. Pasteurization could not offer aid at such a time, as to destroy this virus it is necessary to heat the milk to a temperature of 160° F. for thirty minutes; while the temperature to which commercially pasteurized milk is heated is 140° to 145° for twenty minutes. Milk that is boiled by the housewife just previous to use gives the best margin of safety and avoids danger of contamination.

As the epidemic is confined so very largely to beef cattle, there is at present slight danger to the milk supply. The meat supply is safe, as the disease was discovered very early and measures taken to insure that no meat so contaminated could reach the food supply. The controlling factor for the advice to boil all milk lies in the fact that milk is most dangerous for two or three days previous to the appearance of the lesions in the cow.

THE MEDICAL PRACTICE ACT.

In this issue of the Journal will be found an interesting article on the Medical Practice Laws of Wisconsin by the Hon. A. C. Umbreit of Milwaukee, attorney for the State Board of Medical Examiners. Mr. Umbreit has given a great deal of thought to the subject of what a medical practice act ought to be and he expresses his views very clearly. Every medical man ought to read this article carefully and think it over. When the medical profession comes to a decision in regard to a new medical practice act and earnestly wants to get such an act passed and is willing to go to Madison and fight for its passage, then, and not until then, will anything be accomplished.

No one is going to come to us bearing an ideal medical practice act on a silver tray and present it to us with the compliments of the Senate and Assembly.

When we know what we want and are willing to work and fight for it we may count pretty confidently on being able to get it, if we can show that our requests are reasonable and just. But the thing we must do first of all is to find out what we really do expect the medical practice act to be. A consideration of Mr. Umbreit's paper may help us to this end.

THE REPORT ON THE FRIEDMANN TREATMENT.

The blare of trumpets which accompanied the announcement of the arrival of Dr. F. F. Friedmann and his Tuberculosis Treatment in America two years ago is in striking contrast to the quietness and restraint which mark what might be called the obsequies of this much-advertised method.

In the Hygienic Laboratory Bulletin for October, 1914, is published the final report of the committee appointed by the Public Health Service to investigate Dr. Friedmann's claims.

Quotations from this report have already appeared in medical publications, as for instance, in an interesting article in the Journal of the American Medical Association for November 7, 1914, page 1690, but even at the risk of repetition we wish to present some of the conclusions of this investigation to our readers. The medical profession as a whole was justly sceptical as to the claims of Dr. Friedmann and in some quarters the criticism of this attitude was very severe. It is only fair to ourselves therefore, to emphasize the fact that two years of patient investigation by skilled laboratory workers has absolutely justified this position of "wanting to be shown."

The following paragraphs are quoted from the report:

"The preparation used by Dr. Friedmann in our cases was not entirely harmless, inasmuch as it frequently produced abscesses or discharging lesions at the site of the injection. Moreover, there is presumptive evidence that it may cause damage to a tuberculous person. For this reason we believe that its promiscuous injection into tuberculous patients is unjustifiable.

"There is evidence that this preparation exerts a specific action when injected into persons suffering from tuberculosis, which in the majority of cases treated with the number of injections which our patients received is insufficient to materially alter the course of the disease, in a small minority of cases redounds to the patient's advantage, and in another small minority results in definite injury.

"The nature of the claims, the cases cited, and the general tone of Dr. Friedmann's article are such as to create the impression that his methods represent a great advance over previous methods of treating tuberculosis. The observations here recorded do not bear out this impression.

"It is realized that the claim will be made that our patients did not receive as protracted a course of treatment as might have been administered if they had been continuously under Dr. Friedmann's care, and that had they received more treatment the result might have been different. To this claim we can answer: First, that many of the brilliant results which he reports in his article, and which we must assume to be representative, were obtained with but one or two injections; second, that the failure of our patients to receive further treatments was due to Dr. Friedmann's negligence, unprofessional conduct, and commercial greed, primarily, and secondly to the alarm engendered on the part of the health authorities locally responsible by the unfavorable course taken by the disease in certain patients, apparently as a result of the injections."

* * * * *

"The organism used by Dr. Friedmann is an acid-fast bacillus, morphologically similar to the tubercle bacillus. Culturally, the organism may be distinguished from organisms heretofore recognized as tubercle bacilli.

"Some of the cultural characteristics can be artificially modified.

"It is relatively but not completely a-virulent and apparently may in very rare cases cause a tubercular process on inoculation (Guinea-Pig No. 11).

"Inoculation with the Friedmann bacillus in the doses used caused, as a rule, hypersusceptibility to bovine tuberculosis in the guinea-pig and rabbit, the treated animals dying earlier, on the average, than the untreated.

"In a few instances the animals which received the Friedmann culture were apparently somewhat resistant to infection, but all showed tuberculosis at autopsy (Guinea-Pigs Nos. 3, 33, 35, and Rabbit No. 1). Neither curative nor protective action against natural or inoculation tuberculosis was shown in monkeys. Acid-fast organisms were repeatedly found in previously healthy guinea-pigs over 100 days after treatment with the Friedmann organism. Dr. Friedmann claimed they 'are never found in the guinea-pig body, even after a short time.' The material used by Dr. Friedmann for the treatment of human beings was found to be at times contaminated with staphylococci."

* * * * *

"The claims made by Dr. Friedmann for his method of treating tubercular infections are, in brief, that, by means of injections of a living acid-fast organism, harmless of itself, he is able to cure cases of tuberculosis, pulmonary or otherwise, which have not already advanced to that hopeless stage where death is imminent. From the manner of presenting these claims and from the fact that successes only and not failures are reported, the reader of these claims is bound to assume that such results are the rule; in other words, that a sovereign remedy for tuberculosis has at length been discovered, and incidentally that a method has been devised for the administration of living acid-fast

organisms which avoids abscess formation, a complication which has hitherto limited their employment.

"The results of the investigation here reported do not confirm the claims made by Dr. Friedmann. We find, in brief, that the preparation used by him is not strictly devoid of dangerous properties of itself, still less so when injected into tuberculous subjects; that the favorable influencing of tuberculous processes by his methods is certainly not the rule, and that if we are to ascribe to the Friedmann treatment the improvement noted in a few cases, we are equally bound to impute to it the serious retrogression observed in other cases; and finally that the phenomenon of abscess formation has not been avoided by Dr. Friedmann's methods.

"We find that the organism used by Dr. Friedmann differs in important cultural characteristics from any heretofore recognized tubercle bacillus.

"The subcutaneous and intramuscular inoculation of animals with the Friedmann organism caused the formation of abscess in over 25 per cent. of the animals treated.

"The treatment of animals with the Friedmann organism—rabbits and guinea-pigs—either before or subsequent to infection with virulent tubercle bacilli, is followed, as a rule, by an increased susceptibility to the disease.

"Inoculation of monkeys with the Friedmann culture did not show either curative or protective action in those animals against tuberculosis."

The summary of the investigation is given in the following simple but telling language which leaves very little to be said:

"The claim of Dr. F. F. Friedmann to have originated a specific cure for tuberculosis is not substantiated by our investigation."

"The claim of Dr. F. F. Friedmann that the inoculation of persons and animals with his organism is without harmful properties is disproved."

NEWS ITEMS AND PERSONALS

Dr. Eugene Chaney has discontinued his Milwaukee office and accepted a position at The Milwaukee Sanitarium, Wauwatosa, with which institution he was formerly connected.

Dr. W. W. Witcpalek, formerly of Collins, now at Algoma, is convalescing from a recent operation.

Dr. M. P. Andrews, Beloit, sustained a fracture of the leg on October 7th, when his automobile turned turtle.

Dr. A. B. Jensen, Menasha, has begun suit against the Soo Line for the alleged destruction of an automobile. The machine was wrecked when it came in contact with one of the Soo trains, and the suit is one to recover damages. The doctor charges negligence on the part of the railroad company.

Dr. Geo. H. Pugh, Kenosha, is suing the United States Express Company, demanding damages to the amount of $10,000. The action brought by Dr. Pugh is based on an accident which resulted in the death of his wife in August, 1912, when a delivery wagon of the Express Company in making a short turn was brought directly in front of the automobile in which the doctor and his wife were riding. The thill of the wagon crashed through the windshield impaling Mrs. Pugh. In his suit Dr. Pugh asserts that the death of his wife was directly due to negligence on the part of the driver of the wagon.

Dr. Addison M. Dorr has been placed in charge of the new West Allis General Hospital.

The Shawano Hospital, in charge of Dr. C. E. Steubenvoll, will move to its new quarters on December 1st.

Health Commissioner George C. Ruhland, Milwaukee, has asked the finance committee of the common council for an appropriation of $3,000 for fighting contagious diseases. The funds of the department for this purpose are exhausted.

Dr. S. H. Wetzler, Milwaukee, was injured, though not seriously, in an automobile accident on November 7th.

UNITED STATES CHAMBER OF COMMERCE TO STUDY FOOD AND DRUG QUESTIONS.

The Chamber of Commerce of the United States of America, a body composed of representatives from about 600 local boards of trade, chambers of commerce, and trade associations, widely distrib-

uted throughout the United States, has taken up the study of the subject of uniform food and drug regulation. For this purpose a special committee was appointed in July, and its first meeting was held at the headquarters of the Chamber in Washington, October 8th. The committee is composed of Willoughby M. McCormick of Baltimore, A. J. Porter of Niagara Falls, John A. Green of Cleveland, B. L. Murray of New York, and Theodore F. Whitmarsh of New York. Mr. McCormick, the chairman, is a member of the Board of Directors of the Chamber of Commerce of the United States and the head of the firm of McCormick & Co., manufacturers of extracts and drugs and importers of spices and teas; Mr. Porter is president of the Shredded Wheat Co.; Mr. Green is secretary of the National Association of Retail Grocers; Mr. Murray is chemist to Merck & Co., and Mr. Whitmarsh is vice-president of Francis H. Leggitt & Co.

The first meeting of the Committee was devoted to organization and the preparation of a program for the committee's future work. The following resolution was adopted:

Resolved, That the Chairman be and he hereby is authorized and empowered to appoint two sub-committees to consider, respectively, the problems relating more particularly to food control and to drug control, and to report their findings to the general committee.

As a result of the above resolution Mr. McCormick appointed Mr. Murray as chairman of the sub-committee on drug control and Mr. Porter as chairman of the sub-committee on food control.

The following resolution commending the efforts of the Department of Agriculture tending towards co-operation and uniformity was also adopted:

Resolved, That this committee hereby earnestly and heartily endorses the establishment of the bureau in the United States Department of Agriculture, particularly concerned with Federal and State co-operation in the enforcement of the Food and Drug Control Laws, thereby promoting an equal and uniform enforcement of such laws, believing that this work is distinctly in the public interest.

The position taken by the committee on the meaning of uniformity is interesting and will repay close examination. Its views are not confined to a limited horizon, but are intended to grasp the broader and wider fields. Its efforts will be confined to no organization or class of people. It hopes to cover in its endeavors the position of the wholesaler, the retailer, the consumer, the manufacturer, the official, and all others concerned in the production, handling and consumption of food and drugs. But only the broad, general questions of national character will be considered. After a lengthy discussion the committee at its meeting, by unanimous vote of all present, adopted the following regarding uniformity:

Uniformity as the committee would define it involves the highest degree of efficiency in food and drug control which it is possible to have prevail universally and equally in every part of the nation. The Federal, State and Municipal laws and their regulations would, if perfect uniformity were attainable, reach the level of full and complete efficiency—and thereby afford equal protection and a uniform standard of living for all the people. Uniformity accomplished places merit and the general public interest over local political or geographical divisions. This committee will, therefore, direct its efforts and consideration toward the accomplishment of uniformity. The committee cannot but feel impressed with the magnitude, the importance, and the seriousness of its work. It cannot but feel the need for the closest study of the subject. And again the committee cannot but feel the necessity for the fullest and most cordial co-operation between itself and the officials and all others concerned. The committee will, of necessity, act deliberately and slowly, making certain of each step, considering only the important problems of national character.

MARRIAGES

Dr. H. J. Connor, Superior and Mrs. Margaret Deery, Spokane, Wash., at Chicago on October 9th.

Dr. C. M. Schuldt, Platteville and Miss Julia E. Smith, Madison, on September 23rd.

REMOVALS

Dr. D. E. Bleecker, Columbus to West Concord, Minn.

Dr. H. E. Luehrs has returned to Hilbert, Wis., from San Antonio, Texas.

Dr. I. F. Thompson, Reedsburg to Madison.

Dr. F. J. Stirn, West Bend to Schleisingerville.

Dr. F. E. Collins, Athens to Edgar.

Dr. F. C. Eakins, Waukesha to Rochester, Minn.

Dr. A. J. Kampmeirer, Curtis to Bloomer.

Dr. F. E. Tryon, Windsor to Merrimac.

Dr. G. R. Egeland, for the past ten years located at Ephraim, has removed to Sturgeon Bay.

Dr. A. A. Ankenbrandt, Schleisingerville, has disposed of his practice to Dr. F. J. Stirn of West Bend, and intends taking a post-graduate course in eye, ear and throat at Chicago, after which he will locate at Mount Carmel, Ill.

Dr. W. W. Witcpalek, Collins, has disposed of his practice to Dr. J. E. Hanks, Milwaukee, and is now located at Algoma.

DEATHS

Dr. Sarah R. Munro, said to be the oldest woman physician in Wisconsin, died on November 4th at her home in Milwaukee, aged 75 years. She was a graduate of the Women's Medical College of Pennsylvania, Philadelphia, in 1872. She had practiced in Milwaukee for about 25 years. She was one of the oldest members of the Associated Charities, at one time was visiting physician of the House of Mercy, and for a number of years director of the Home and Farm School for Boys at Dousman, Wis. Member of Milwaukee County and the State Medical Societies.

Dr. Samuel D. Huntington, Milwaukee, a former Green Bay man, who attempted suicide recently, died on October 20th, aged 45 years. Dr. Huntington was at one time a surgeon in the United States Army, and was stationed at Manila, Philippine Islands. He had been a resident of Milwaukee for several years. Graduate of the University of California, Medical Department, 1897.

Dr. John W. Jones, Clinton, for the last two years at Milton, died on October 15th, 1914, aged 75 years. Dr. Jones was born at Duannesburg, N. Y., April 28, 1839, and came to Wisconsin in 1843, being one of the pioneers of the State. He first settled near Delavan, but in 1849 moved to Clinton where he resided until two years ago, when on account of failing health he moved to the home of his daughter at Milton. He began the practice of medicine in 1868, and continued a very successful practice until his health failed. Graduate of the Eclectic Medical College, Cincinnati, Ohio, in 1868.

Dr. Robert W. Earll, for many years located at Columbus, died at the home of his daughter in Denver, Colorado, aged 92 years. Dr. Earll was born at Onondago, N. Y., in 1823. He received his early education at the academy at Onondago Hollow, N. Y., studied medicine at Syracuse, came to Wisconsin in 1840, and graduated from Rush Medical College in 1853. In 1850 he was married to Angeline Finney of Lowell, Dodge County. Dr. Earll retired from active practice eight years ago.

Sympathetic Ophthalmia after Enucleation. Jampolsky, Fanny., (From the eyeclinic of Prof. E. Fuchs in the University of Wien. Zeitschrift für Aug., 32, Sept.-Oct., 1914, p. 233), reports 8 cases, which show that the prognosis of these in general was better than otherwise, as almost 60% healed with good vision. On the other hand, the course of the disease can be very grave and may lead to complete blindness. The gravity of the disease is independent of the time between injury and outbreak of sympathetic ophthalmia, e. g., Case 1 took a severe course with an interval of 31 days. Also the period between injury and enucleation does not seem to influence the seriousness of the sympathetic ophthalmia: Serious course in Case 2 with enucleation after 18 days, light in Case 6 with enucleation after 39 days. Finally the interspace between enucleation and beginning of sympathetic ophthalmia seems to be irrelevant for the gravity of the disease. Then J. gives abstracts of 65 cases from literature, in many of which however the diagnosis is not certain on account of lacking histological findings.

C. Zimmermann.

To the Knowledge of Necroses of the Lids. Eppenstein, A., (From the eyeclinic of Prof. A. Bielschowsky in the University of Marburg. Zeitschrift für Aug., 32, July, 1914, p. 16). After a review of the possibilities with regard to the origin of necroses of the lids, according to von Michel, and a tabulation of 18 cases from literature, E. reports in detail 2 cases of necroses of the lids from infection by streptococci and one due to lues and an infection by staphylococcus pyogenes aureus. The latter case showed again, that Wassermann's reaction ought always to be made if there is only slight suspicion of lues, even if for many reasons lues is improbable, (painful glands, age). Each case of necrosis of the lids must be scrutinized in all detail. Generally a relatively simple therapy will be found with satisfactory results.

C. Zimmermann.

THE STATE MEDICAL SOCIETY OF WISCONSIN

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NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER, 1915.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

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Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
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Wood	J. A. Mason, Marshfield	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

FOND DU LAC COUNTY

The Twelfth Annual Meeting of the Fond du Lac County Medical Society was held Nov. 11, 1914, at Fond du Lac. The following officers were elected:

President, Dr. J. M. Baasen, Mt. Calvary; vice-president, Dr. P. J. Calvey, Fond du Lac. secretary and treasurer, Dr. H. C. Werner, Fond du Lac; censor, Dr. F. M. McGauley, Fond du Lac; delegate, Dr. F. S. Wiley, Fond du Lac; alternate, Dr. A. J. Pullen, North Fond du Lac.

H. C. WERNER, M. D., *Secretary.*

KENOSHA COUNTY

The Kenosha County Medical Society and the Kenosha County Anti-Tuberculosis Association held a meeting in the Opera House, Tuesday evening, October 27th, which was largely attended. The speakers of the evening were Drs. G. M. Young, Chicago, Chief of the Health Department, on Public Health; Dr. J. M. Coon, Supt. of Cook County, Ill., Sanatorium, on A County Tuberculosis Hospital, and Dr. Otho Fiedler of Sheboygan, member of the State Board of Health, on The Progress of Health Board Work throughout the State and the good it was doing.

The regular meeting was held at the home of Dr. H. J. Stalker, on Friday evening, November 6th, the lecturer of the evening being Dr. Rosenow of Chicago. Dr. Rosenow spoke on Serum and Vaccine Treatment, and the new discoveries in Bacteriology. The lecture was very much appreciated by all.

A. J. RANDALL, M. D., *Secretary.*

WEST WISCONSIN DISTRICT MEDICAL SOCIETY

The West Wisconsin District Medical Society met at Eau Claire on October 27th, opening at 8 o'clock in the morning with surgical clinics at the Sacred Heart Hospital. The scientific program was given at two in the afternoon at the public library: "Tuberculosis (concealed). A New and Heretofore Unrecognized Clinical Type of Tuberculosis Infection," Geo. Douglas Head, Minneapolis. "Intestinal Stasis," Dr. A. E. Benjamin, Minneapolis. "Acute and Subacute Conditions of the Abdomen," D. C. Balfour, Rochester, Minn. The session closed with a banquet at the Gallway House in the evening.

The West Wisconsin District Medical Society comprises Chippewa, Dunn-Pepin, Eau Claire, Pierce, Polk-Barron-Washburn-Sawyer-Burnett, Rusk and St. Croix Counties.

MILWAUKEE SURGICAL SOCIETY.

The Milwaukee Surgical Society met on November 4th at the University Club. The speaker of the evening was Dr. V. D. Lespinasse, Chicago, on The Newer Knowledge in Regard to the Transfusion of Blood. The next meeting will be held on December 7th.

SOCIETY OF WISCONSIN MEDICAL WOMEN.

The Wisconsin Medical Woman's Society in closing its convention elected the following officers: President, Dr. Carrie A. Frost, Chippewa Falls; vice-president, Dr. Mary Hauch, La Crosse; secretary, Dr. H. A. Binnie, Poynette; treasurer, Dr. Maud Platt, Appleton.

BOOK REVIEWS

A TREATISE ON DISEASES OF THE NOSE, THROAT AND EAR. By William Lincoln Ballenger, M. D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. New (4th) edition, thoroughly revised. Octavo, 1080 pages, with 536 engravings, mostly original, and 33 plates. Cloth, $5.50, net. Lea & Febiger, Philadelphia and New York, 1914.

The new edition of this elaborate work has been thoroughly revised and brought fully to date by elimination of all obsolete matter and incorporation of much new text with many new illustrations and plates, all of which have been drawn by the author. This is especially evident in the chapter on the labyrinth of 100 pages of new matter, with 13 original colored plates, illustrating the physiological and pathological manifestations of nystagmus, and 12 drawings showing the labyrinth operations of Neumann and Hinsberg, and the chapter on general diagnosis of labyrinth diseases of Dr. J. R. Fletcher, the full description of Mosher's fronto-ethmoidal operation, autogenous vaccines in the treatment of hay fever, the functional tests of hearing, rewritten by Dr. A. Lewy, otosclerosis, vaccine and His lenkocyto-extract therapy, meningitis, abscess of the brain, Geo. McBean's theory of causation of paracusis Willisii, and the use of salvarsan in the treatment of syphilis of the brain and auditory nerve. Thus the hope of the author, expressed in the preface, that the new edition will continue to enjoy the favor which has called for four large editions in six years, will certainly be fulfilled. The external appearance, paper, print and illustrations are excellent.

C. ZIMMERMANN.

BLOOD PRESSURE IN MEDICINE AND SURGERY. A Guide for Students and Practitioners. By Edward H. Goodman, M. D., Associate in Medicine in the University of Pennsylvania. 12mo, 226 pages, illustrated. Cloth, $1.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

This small volume of 220 pages by Dr. Goodman adds another to the recently growing list on the subject of Blood Pressure. It has this advantage over its rivals, it is small, well-written and meaty. The author has culled the literature most discriminatingly and has given his

own work and his own ideas throughout so that the book is not a mere compend but represents the results of work and experience.

The subject of blood pressure has become almost a fetich with some, to the detriment of an important but overworked natural prenomenon. Any book with a sane, conservative viewpoint must be now welcomed as we are in need of authoritative literature to counteract the sweeping conclusions drawn by some writers.

The author has divided his subject into sixteen chapters. After he has discussed the theory and practical application of blood pressure he devotes chapters to blood pressure in many varied diseases and diseased states. Some of this data has very little value but it is well to have in convenient form the sum of our knowledge even if much of the knowledge is of only negative value.

The author accepts the view that the diastolic pressure should be taken at the point of transition between the third and fourth tones, the point to which the reviewer has repeatedly called attention.

The book is well printed. A few typographical errors are seen, notably a glaring one on page 48, the line next to the last where the glass tube of a mercury instrument is described as 2½ to 3 cm. in diameter.

All in all, this is a book to be highly recommended to those who are looking for information on blood pressure.

L. M. WARFIELD.

THE PRACTITIONER'S VISITING LIST FOR 1915. Four styles; weekly, monthly, perpetual, sixty-patient. Pocket size; substantially bound in leather with flap, pocket, etc.; $1.25, net. Lea & Febiger, Publishers, Philadelphia and New York.

It affords a simple and complete system for keeping the records of daily practice. In addition to the ruled pages for daily calls and their notes, general memoranda, addresses, cash account, etc., it contains specially arranged spaces for data desired for permanent record such as births, deaths, etc. The value of such records is best appreciated by the physician who has been suddenly confronted by the necessity of producing such data after the lapse of years and in the absence of an orderly system for its preservation.

Among the useful features are tables of weights and measures and comparative scales; a scheme of dentition; incompatibles; poisons and anidotes; directions for effecting artificial respiration; an extensive table of doses; an alphabetically arranged table of diseases and remedies; table of eruptive fevers, instructions for urinalysis and directions for ligation of arteries.

DISEASES OF THE RETINA. Leber, Th., Heidelberg, Graefe-Saemisch-Hess, Handbuch der gesamten Augenheilkunde, 2nd, entirely new edition. Nos. 237 to 240. 320 pp. with numerous illustrations. Leipzig and Berlin. Wilhelm Engelmann. 1914. Subscription 8M., $2.00. These numbers are the continuation of Leber's great work, whose preceding issues were reviewed in Wis. Med. Jour., and deal with the disturbances of the circulation of the retina and their consequences, hemorrhages, diseases of the retina by ectogenous and endogenous suppurative processes, metastatic retinitis, syphilitic and tuberculous affections of the retina. The clinical aspect with numerous histories of cases, ophthalmoscopic picture, anatomical changes, and treatment are most exhaustively presented, with many illustrations, and full utilization of literature, even the most recent, e. g., the pathological changes in tuberculosis periphlebitis of the retina found by Fleischer.

With regard to salvarsan L. says that in the empirically found efficient doses it may be considered as uninjurious to the optic nerve. But as frequently neurorelapses and grave intra-ocular inflammations, e. g., iritis, obstinate chiorioretinitis and papilloretinitis, were observed after salvarsan, it is still to be investigated on which conditions the occurrence of these unexpected complications depends, and methods must be found by which they can, if possible, be prevented. From extant experiences of the treatment of syphilitic diseases of the retina with salvarsan L. has not the impression, as if it was superior to the other methods. Only in the rapidity of its effect it is unparalleled and is to be recommended especially in cases where there is danger in delay and a speedy control of the process must be attained.

C. ZIMMERMANN.

RADIUM AND RADIOTHERAPY. RADIUM, THORIUM AND OTHER RADIO-ACTIVE ELEMENTS IN MEDICINE AND SURGERY. By William S. Newcomet, M. D., Professor of Roentgenology and Radiology, Temple University, Medical Department; Physician to the American Oncologic Hospital; Fellow of the College of Physicians, Philadelphia. 12mo, 315 pages, with 71 illustrations and 1 plate. Cloth, $2.25, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

Newcomet gives a concise presentation of radio-active substances from chemical and medical sides. The Chemistry and Physics of Radio-active elements are simply yet carefully considered. Radio-activity and the methods of estimating radiation are explained. Consideration is given to radium, thorium, actinium, uranium. A rather detailed explanation is presented of the various methods of applying radium and the different apparatus necessary. These general considerations comprise about two-thirds of the book. The remaining one-third is devoted to the application of radium in dermatology, ophthalmology, gynecology, urology and in the treatment of malignant and benign tumors and in internal medicine.

This book is very timely. There is much confusion in the minds of medical men regarding radio-active substances. The physics and chemistry are clearly and simply explained. The book should be welcomed by the general practitioner who desires an idea of the fundamental principles of radio-activity without a burdensome amount of detail.

C. A. B.

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ORIGINAL ARTICLES

ANNUAL ADDRESS IN MEDICINE. FOCAL INFECTIONS AND THEIR RELATION TO SYSTEMIC DISEASES.*

BY FRANK BILLINGS, M. D.,

CHICAGO, ILLINOIS.

Mr. President and members of the Society:—I want to express my appreciation of the honor conferred upon me by inviting me to give this address. I am a Badger and am, therefore, glad to meet my brother Badgers. It has been said that Wisconsin is remarkable because the best of her sons, lawyers, business men, doctors and others migrate. But after listening to the program of the morning, I'm sure the best medical men are still in the state. Your program this morning has been very interesting. The papers and discussions have been scientific and practical. The papers read in the symposium and the discussions have in fact used up the ammunition I expected to fire at you.

In as short a time as possible I want to present to you some of the principles I consider important on the subject of my address.

By a focus of infection is meant a circumscribed area of infection, which is confined. There may be a *primary* focus, which develops because of some local or general tissue weakness and to unhygienic habits and environment. The *secondary* focal infection may occur because of a preceding exhausting disease or may be the result of a primary focus. This first mentioned secondary focus is illustrated by the alveolar abscesses which occur in the chronic invalid suffering from tuberculosis. The secondary last mentioned finds examples in the cervical lymph nodes which become infected from diseases of the tonsils, nasopharynx and dental alveoli. Whether primary or secondary the focus may be the source of systemic disease. Focal infection exists for long periods without causing appreciable systemic disease in many people. The natural defenses of the body protect the individual. In some people the natural defenses finally become exhausted and systemic disease results. This immunity or vital resistance of the body to infection is naturally much stronger in some individuals than in others. Inherited tissue weakness, lymphoid tissue overgrowth; malnutrition, a poorly balanced food ration, (scurvy-rickets, etc.); physical exhaustion from overwork, mental worry, childbearing, prolonged exposure to cold; dissipation from overuse of intoxicants, are some of the causes which lead to a lowering of the body defenses.

HOW DOES THE SYSTEMIC DISEASE OCCUR?

The method of a systemic infection from a focus is through the blood stream, i. e., hematogenous. The invading bacteria reach the terminal vessels causing embolism. The blood vessel is more or less occluded by secondary endothelial proliferation. Small hemorrhages occur into the infected tissues, whether it be the joint capsule, voluntary muscles, endocardium, myocardium, submucosa of the stomach, bowel, appendix veriformis and gall bladder, Bowman's capsule of the kidney or other organ. Lymph nodes which drain the areas of infected tissue become infected and enlarged. In consequence of the mode of infection (embolic) the tissues are not only infected but also deprived of more or less blood supply and tissue metabolism is changed. A muscle becomes sclerotic and shortened with consequent deformity of joints, cartilage and bone of joints are changed by atrophy or hypertrophy with the resulting morbid anatomy of deforming arithritis; embolism, hemorrhage and necrosis in the submucosa of the stomach is followed by peptic digestion of the circumscribed dead tissue and ulcer results; the same infection into the submucous tissue of the gall bladder results in rupture into the gall bladder and cholecystitis, which if it becomes chronic may be followed by gall stone formation; embolism in the endocardium or

*The Annual Address in Medicine delivered at the 68th Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 8, 1914.

Condensed from the notes of the stenographer.

valve leads to vegetative growths of various types, mild or malignant.

This mode of infection and the results thereof are not theoretic. The statements made have been verified by clinical investigation and animal experimentation. In the Clinic of Rush Medical College and the Presbyterian Hospital and in co-operation with the workers of the Otho S. A. Sprague Memorial Institute and also of the Memorial Institute for Infectious Diseases, team work is done. Bacteriologists, clinicians, general surgeons, nose and throat specialists, dentists, orthopedic surgeons and others qualified by education and experience co-operate in the work. The spirit of investigation prevails in the hospital, nurses and others become interested. Even the patients co-operate. By voluntary consent or by request, more than fifty patients have submitted to the removal of infected tissues. Pieces of muscle, capsule of joint, fibrous nodes on tendons, lymph nodes draining infected tissue have been removed for the purpose of investigation. Infected tissues from gall bladder, appendix, ulcer of stomach, goitres, etc., have been secured at surgical operations. Histologic and bacteriologic studies of these tissues have been made. Bacteriologic cultures so obtained have been used to inoculate animals and the resulting infected tissues of the animal have received the same study.

The mode of infection and the resulting morbid anatomy as stated above was learned in this way. The large amount of material studied and the uniformity of the results very much strengthens the facts stated.

A focus may cause systemic disease also by the absorption of toxic substances, which, however, we cannot measure. Biochemistry may sometime explain conditions which are now obscure.

The condition known as anaphylaxis may occur from a focal infection. The body tissues may be sensitized by the parenteral absorption of a protein having its source in the invading bacteria of the focus or in the exudate caused by the presence of the bacteria. Reinoculation of the body by the same protein, through an excitation of activities in the focus by a cold, etc., and the phenomena of anaphylaxis occur. Asthma, urticaria and other phenomena are often expressions of anaphylaxis caused in this way.

WHY DO WE GET DIFFERENT TYPES OF SYSTEMIC DISEASE FROM A FOCUS?

A focus may give rise to acute rheumatic fever or malignant or simple endocarditis or acute myositis, etc. A like focus in other individuals may be the source of chronic deforming arthritis or chronic myositis or chronic ulcer of the stomach, etc.

There can be no question that the invading bacteria, usually of the streptococcus-pneumococcus group, acquire certain pathologic qualities of virulence and affinity for certain tissues in the focus. This is due, in part to the oxygen tension in the tissues. Streptococci are always found in the lymphoid tissues of the throat. The pathogenicity may be practically nil in certain strains for periods of time. Under certain conditions pathogenicity is increased and apparently a specific affinity is acquired and a characteristic systemic disease follows. Undoubtedly the defenses of the body are lowered coincidentally with the development of specific qualities in the bacteria of the focus. As an example one may note a type of malignant endocarditis due to the streptococcus viridans. This strain of the streptococcus is often found in chronic tonsillitis and in chronic alveolar abscess. It is not usually virulent. It grows well in much oxygen and is often found on the surface of infected tissues of the mouth and throat. It apparently acquires at times an affinity for the endocardium and especially if there exist old endocardial scars. It infects the heart through the blood stream. Subserous hemorrhage, vegetative overgrowth and septicemia occur. The vegetations and contained thrombi serve as a culture medium. It finds abundant oxygen in the blood stream and it multiplies rapidly. It overwhelms the defenses of the body, develops an immunity against its host and assumes, therefore, a malignancy directly opposed to its usual characteristics.

On the other hand the strain of streptococcus which is found in the capsule of joint and lymph nodes draining a joint, in chronic arthritis and that also found in fibrous nodes and in infected muscles, grows best with little or no oxygen. This quality, probably developed in the focus, together with the affinity for joint tissues and muscles explains the progressive character of chronic deforming arthritis and myositis. Again hematogenous infection causes embolism with endoarterial proliferation and more or less hemorrhage into the tissues. The les-

sened blood supply means lessened oxygen in the infected tissues. The infecting organisms have produced a condition in which they grow best. Lessoned nutrition due to lessened blood supply with infection, is doubtless the cause of the metabolic processes, which leads to the peculiar morbid anatomy of joints and muscles in chronic deforming arthritis. One may point to other examples of pathogenic specific affinity of the infectious organisms in foci of infection, but the two quoted will be sufficient to illustrate the principles which it is desired to emphasize.

The focus of infection may occur anywhere in the body. The head is the most frequent location.

The lymphoid tissues of the throat and nose, the various sinuses and accessory cavities and the dental alveoli may contain the infection. The tonsils and dental alveoli are the most common site. Children and certain families are subject to lymphoid overgrowth in throat and nose. These are more frequently subject to focal infection. Neglected caries of teeth and irrational technic in dentistry cause and prolong alveolar abscess. Chronic cholecystitis, chronic appendicitis, prostatitis, vesiculitis seminalis, salpingitis, subcutaneous abscesses, purulent onyxitis are other types of focal infection. One must remember too that secondary foci may exist, as I already have mentioned.

In these various foci one may find many types of bacteria capable of causing systemic disease. I have mentioned the streptococcus-pneumococcus group. Tubercle bacilli may occur in tonsils and other lymphoid tissues and lymph nodes. Staphylococci are often found in skin infections (nails, etc.) and sometimes cause acute alveolar abscess. The gonococcus is a frequent cause of chronic vesiculitis seminalis and prostatitis and also salpingitis. Other microorganisms are less frequent agencies of focal and systemic infection, but one must not lose sight of ray fungi, bacillus coli, bacillus of Welch, and others.

In locating a suspected focus one must make thorough and often repeated examination. One often will need the aid of specialists qualified in nose, throat, jaw, pelvic and other local diseases. Radiograms of jaws and sinuses are usually necessary to gain positive knowledge of the condition of alveoli and sinuses. Small faucial tonsils and healed stumps after tonsillotomy are often more dangerous as the seat of chronic abscess than big indurated tonsils.

SYSTEMIC DISEASES RELATED TO FOCAL INFECTION.

I believe that acute rheumatic fever (polyarthritis), malignant endocarditis (streptococcus viridans, gonococcus, staphyloccus, etc.), tuberculosis, chronic deforming arthritis, acute and chronic myositis, certain forms of acute and subacute nephritis, occasional types of cholecystitis and appendicitis and pancreatitis and certain forms of hyperplasia of the thyroid gland may originate from a focal infection. There is also no doubt that degenerative cellular changes may occur in organs from a slow insidious intoxication through a focal infection, especially of the gall bladder, appendix vermiformis, alveolar abscess, chronic sinusitis, etc. Chronic cardiomyopathy, chronic nephritis, chronic hepatitis, etc., are examples.

CONCLUSIONS.

First we must reorganize the principle of the relation of systemic disease to focal infection. We then practice prophylaxis by the prevention of focal infection or removal of the focus early. Personal and general hygiene in reference to the cleanliness of the air, pure food, proper clothing, care of teeth, cleanliness of throat, removal of pathologic tonsils and adenoids, prompt surgical treatment of sinusitis, cholecyotitis, appendicitis salpingitis and thorough treatment to eradicate gonorrheal infection may prevent chronic systemic invalidism or a fatal disease. If the systemic disease is already established, the rational management demands the removal of the source at the earliest moment. The infectious micro-organisms of the focus and also those from glands, blood, etc., should be studied. Autogenous vaccines may be made and used in treatment. Tonsils should be removed during convalescence of acute rheumatic fever to prevent recrudescence. After removal of the focus the systemic infection may be overcome in most chronic conditions by individual care. Malignant endocarditis and some forms of tuberculosis are hopeless.

Individual care has for its purpose the improvement of all the defenses of the body to overcome the systemic infection and to restore the local circulation and nutrition of the morbid tissues. If advanced destructive lesions have occurred, complete restoration will not occur. An anatomically injured organ or joint may still functionate sufficiently to support life and physical well being.

This physiologic upbuilding requires fortitude

on the part of the patient and the inexhaustible patience and ingenuity of the physician.

Good food, pure air, optomistic environment, tonic shower or spray baths, massage, calisthenic exercises, graduated active exercise, attention to excretions through skin, bowels and kidneys, restorative tonics when needed, etc., will reward the patient and physician by surprising results if persistently followed. Autogenous vaccines rationally used, as pointed out by Dr. Rosenow, may be used to increase the body defenses. But one must not forget that the embolic mode of infection obstructs the arterioles of the infected tissues cutting out the blood circulation more or less, in many of these systemic diseases. This will prevent the antibodies developed by the vaccines, from readily reaching the infected tissues. Vaccines will, therefore, be of more value in the later stages of the disease, when the local and general circulation has been improved by the physiologic and hygienic treatment mentioned above. There is no rational excuse for the use of heterogeneous vaccines or filtrates containing toxins of bacterial cultures.

Now, Mr. President and members of the Society, let me thank you for your patient attention to this long address.

I hope I have made clear to you the principles involved in the subject under discussion. If I have, the details of the involved pathology, morbid anatomy and treatment will be easily understood by anyone who is interested in the subject.

THE VACCINE TREATMENT OF VARIOUS INFECTIONS.*

BY E. C. ROSENOW, M. D.,

CHICAGO.

The value of vaccine treatment, the hope of doing good by injecting dead bacteria into the human body, or into any animal, is dependent upon a fundamental principle; a parasite invading another host, infecting it, tends ultimately to stimulate processes of immunization on the part of the host that lead to the destruction of the parasite.

In vaccine therapy as we see it today, we hope to bring about this result by the use of dead bacteria or their filterable or other products.

We must not forget that in using vaccines, we are not giving the patient, per se, anything that tends to overcome a particular infection. A vaccine therapy is not a serum therapy. In the case of a serum therapy, we do in the experimental animal what we expect the infected patient to do in the use of vaccines.

We know from the amount of work that has been done that the injection of heat-killed bacteria is followed by a certain amount of immunity, which tends to overcome infections; but just how much can we hope to do in a particular case. In severe generalized infections with high fever, and marked intoxication, the mechanism of immunity is stimulated to the utmost or may be paralyzed. Hence we cannot hope to do very much by the injection of dead bacteria in this class of infections.

It is in the local infections, and particularly those of the chronic type, that we can hope to do the most good by the injection of a properly prepared vaccine.

In the border-line infections, where we have an invasion of the blood stream at intervals, in which the infection is not generalized, the judgment of the physician in charge will be called especially into play as to whether or not to use a vaccine.

I feel that the failures in vaccine therapy are due chiefly to three causes. In the first place the failure is often due to the use of a vaccine in a wrong case; and among those I would put the generalized infections, and severe acute infections. It is useless to try to further stimulate the antibody formation when the patient is already overwhelmed. In the second place, the failures are commonly due to the wrong antigen. And in the third place the general tendency is to use too large doses.

Now, just a few words regarding the use of stock vaccines, or allied products, as compared with the use of autogenous vaccines.

The use of vaccines of any kind presupposes an accurate bacteriological diagnosis. If you do not have an accurate bacteriological diagnosis, your vaccine therapy is empiricism, pure and simple. After you have made an accurate bacteriological diagnosis, what vaccine are you to use, that one you can buy in the drug store, the stock vaccine, or the one that you can make from the bacterium that is infecting the individual patient? It is perfectly obvious from what you have heard this morning

*Read at the 68th Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 8, 1914.

and from what you already know, that it is more desirable to use the autogenous vaccine.

I was asked by your committee to say a word regarding the use of certain much advertised and rather widespread products. I feel that there is really not one good fundamental reason for the use of these products. In the first place they are said to consist of broth culture filtrates, not only from organisms that we know produce disease, but of a host of microorganisms that are non-pathogenic. It has been shown conclusively that bacterial filtrates, even of non-pathogens, when injected into animals that are infected with pathogens, may unfavorably modify the infection. Therefore, why should we inject into a patient a shotgun mixture of toxic bacterial products that have nothing to do with the infection, and are known never to be associated with human disease whatsoever. (Applause.)

The reason why stock vaccines in general are used is because sometimes they apparently do some good, and because it is so easy. There are only a few infections in which a stock vaccine should be used. I would say that with recurrent furunculosis, in the absence of facilities to make a proper autogenous vaccine, and with graded small doses, there can be no particular harm to try a stock vaccine of staphylococcus, because of all the pathogens, the staphylococcus aureus which produces furunculosis is very much alike in various cases.

The use of the various products of the tubercle bacillus for therapeutic purposes rests on substantial ground. In gonococcus infections such as gonorrheal arthritis stock gonococcus vaccines have been used with apparent good results. But remember, not every case of arthritis, in which there is a history of chronic gonorrhea, is a gonococcus arthritis.

The difficulty in obtaining proper autogenous vaccines may be very great. The focus of infection such as in the tonsils for example may or may not harbor the organisms responsible for a systemic disease at any particular time. At all times it requires a competent bacteriologist, and the very best culture media which will enable the organisms responsible for the infection to grow. I know of no better culture medium for routine work than blood agar plates. The vaccine should be prepared just as soon after the organism is isolated as possible. The fact that pneumococci have been divided into four groups by Cole and Dochez, each with different immunological properties, the fact that these tend to persist for a long time under the usual conditions but undergo changes when placed under special conditions as I have shown, the fact that in chronic septic endocarditis, in rheumatism, in arithritis deformans, in ulcer of the stomach and duodenum, and in cholecystitis we are concerned commonly with streptococci which while very similar in many respects nevertheless show marked predelection for these various regions when first isolated, emphasize the importance of autogenous vaccines and that just as they show these various affinities at first it is safe to assume that production of antibodies on injection is equally specific. In the light of these findings even the preparation of a vaccine from the various foci of infection may be far from correct unless animal tests are made to help in identifying the organisms responsible for a particular condition. In the light of these facts the use of many stock vaccines is most absurd. The stock vaccines for rheumatism for example are almost without exception prepared from cultures made from the tonsils in rheumatism which may or may not harbor the streptococcus rheumaticus, or from strains which have been cultivated for years and have probably wholly lost their peculiar properties.

There is just another point which should be emphasized in this connection and that is the possibility that certain of the more chronic infections occur because the invading microorganism fails to properly stimulate the formation of antibodies. Be this as it may there is no good reason for assuming that a similar strain from another source would when injected call forth a reaction which would lead to the destruction of the acclimated organism. The man who prepares the vaccine should know medicine and the essential facts of the history in each case. Finally it must be remembered that vaccine therapy should not take the place of proper surgical procedures. In cases of otitis media or osteomyelitis for example, no amount of vaccination will stop a discharge as long as the sequestrum of dead bone is not properly removed, or in cases of chronic arthritis the relief will be little or none unless the focus of infection is removed.

TYPHOID VACCINATION.*

BY E. C. PRATT, M. D.,

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KANKAKEE, ILL.

Typhoid fever is a readily preventable disease compared with many of the other infectious and contagious diseases and it behooves us as physicians in the state hospital service to acquaint ourselves with the methods now almost universally employed in the prevention of this disease. Hygienic and sanitary measures have done much toward eliminating typhoid, yet a more rigid application of these measures is necessary if we shall hope to curb the occurrence of epidemics.

Typhoid fever is a filth-borne disease. It is caused by germs which are parasites and which depend for their perpetuation upon multiplication in the bodies of human beings. The germs are discharged from the bodies of persons in the stools and urine. Every person who has typhoid has swallowed typhoid bacilli which have come in some way through the excreta of some infected person. Unless we put into our mouths and swallow something which has been soiled or contaminated with human filth we will not have typhoid fever.

In the state hospitals we have much with which to contend. We receive patients from all walks of life, from the best of homes to the slums where conditions are most unhygienic and unsanitary, where diseases of every kind thrive, but to which little or no attention is paid. Many of the patients that we receive are more or less demented, careless about their appearance and untidy. Considering these facts coupled with the possibility of a carrier among them, one can readily see how easily typhoid fever may be introduced into a hospital for the insane. Relatives and friends from all parts of the state and from all walks in life visit patients, and invariably bring with them food stuffs such as cakes, fruit, cold meats and bread. Such food may be contaminated with typhoid bacilli. Such foods are frequently distributed by the patient to his fellows in the ward. This should be considered as a channel through which typhoid may enter an institution.

Here let me emphasize that in obtaining anamneses close inquiry should be made as to typhoid in the case of the patient, and such should be recorded in his history and on ward card, and any patient who gives a positive history of typhoid should not be given employment in our culinary department.

The nursing force should not escape consideration, for frequently attendants entering the service give a history of having had typhoid fever from a few months to one or more years before. Among them may be found a carrier. I believe the best way of disposing of such cases at present is to relieve them of service in our kitchens and dining rooms, or wherever it is necessary that food be handled.

We are fully aware that all who have typhoid are capable of infecting others. Further that those who are convalescing, and those who are considered recovered also act as distributors over a varying period. We have learned that in these people the gall bladder is the storehouse for typhoid bacilli, and that the bacilli suspended in the bile are spurted into the duodenum and thence to the exterior with the feces. They are also excreted in the urine. Knowing these things we can readily appreciate the ease with which one's fingers may become contaminated and the bacilli carried to the food stuffs by those employed in the kitchens or dining rooms. Especially is this true of those who cut and handle the bread. To cite an instance:— About two years ago an epidemic of typhoid occurred at one of our State Hospitals and on close investigation, the source of the infection was sifted down to two attendants employed in the dining room on the Cottage in which the cases developed. On being questioned it was learned that they had had typhoid fever from one to two years before. Analyses of urine and feces of both proved conclusively that they were the source of infection. They handled the bread and without doubt this article supplied the medium of exchange.

During the first part of September, 1913, at Cottage No. 10 North of the Kankakee State Hospital there developed several cases of diarrhea. As is our rule these cases were referred immediately to our hospital ward where they were given free catharsis followed by an astringent. The first case was that of Mrs. A. W., received at the hospital at 6:50 P. M., September 1, 1913, temperature 105.2°, pulse 108, respiration 22. Physical examination, abdomen distended, pain on pressure, gurgling sounds elicited, headache severe, tongue

*Read before the Illinois State Hospital Medical Society, Chicago, Ill., January 29th, 1914.

very red about border, lips dry and marked diarrhea. On September 3rd faint rose spots were detected. This case presented symptoms quite diagnostic of typhoid fever but in order to substantiate the clinical diagnosis a Widal was made on September 7th, and was found positive. The patient then was placed in isolation. Symptoms heretofore stated remaining about the same throughout the course. The temperature was not of the hectic type. It remained at from 104° to 105° continuously. On September 26th, 8 minims of typhoid vaccine were administered.

On September 1, 1913, from the same Cottage, Mrs. L. was referred to the hospital ward, temperature 105°. Weakened physically, pea-soup stools, rose spots and profuse menstruation. This patient's temperature remained elevated throughout the course of the two weeks and she died on September 15, 1913, of intestinal hemorrhage. No post.

Miss A. C., also of this Cottage, was referred to the hospital ward on September 8th, 1913, at 7 P. M., temperature 101°, pulse 84, respirations 24. Physical signs: cheeks flushed, lips dry, tongue slightly furred, bowels loose. Complained of no pain on abdominal palpation. Widal on September 9th positive. From September 11th this patient's temperature ranged from 98.6° to 96.8°. She was in rather weakened physical condition. While in the hospital ward she was more or less constipated, cathartics being necessary to bring about bowel movements. Eight minims typhoid vaccine were administered September 26th. This case was of the ambulatory type and had about run its course when she reached the hospital.

Miss L. B., of Cottage No. 10 North, gave a positive Widal and on September 13th at 11 A. M. was referred to the hospital ward, temperature 101.8°, pulse 106, respiration 25. In the hospital ward at 6 P. M. the temperature rose to 103° and to 104° at 8 P. M., pulse 128, respiration 28. The next morning temperature 101.2°, pulse 110, respiration 20. The temperature remained about the same throughout the course. Eight minims of typhoid vaccine administered September 26th.

Mary T., No. 10 North, was referred to the hospital ward September 18, 1913, at 5:10 P. M., temperature 102.2°, pulse 90, respiration 28. There were no other symptoms noted. A positive Widal was obtained several days previous. Considering the rise of temperature, the pulse and positive Widal she was referred to the hospital ward as a suspect. In the hospital ward her temperature ranged from 98° in the morning to 101° in the afternoon. The course of this disease was not a severe one. On September 26th she received 8 minims of vaccines.

Blood was obtained from all of the patients in Cottage No. 10 North, numbering 106 and of that number 15 gave positive reactions but none other than those referred to the hospital ward manifested any clinical symptoms.

On October 11th, 1913, a patient by the name of Fred F., of Cottage No. 8 South, was referred to our hospital ward in a rather weakened physical condition, temperature 102.2°, pulse 100. On the hospital ward at 3:30 that day his temperature was 103.2°, pulse 72, respiration 22. Leukocyte count made on that date numbered 9640 per cmm. Temperature taken per rectum ranged from 102° A. M. to 104° P. M. From October 13th to 18th temperature was normal or subnormal. Bowel movements were not frequent at any time. The patient gave a positive Widal on two different occasions, then a negative, then a doubtfully positive. He died in a status epilepticus. On post mortem examination there was no evidence of recent or remote ulceration of the Peyer's patches. The point of interest in this case is the positive Widals obtained in the absence of typhoid.

On October 8th, 1913, Mr. V. W., of Cottage No. 8 South, was referred to the hospital ward in status epilepticus. He was somewhat weakened physically. Temperature at time of admission to hospital 102.2°, the next morning 99.4°, in the evening it rose from 101.6° at 6 o'clock to 103° at 8 o'clock. His temperature continued to rise gradually to 105°, respirations increased to 38 and 40. Blood for Widal was obtained and gave positive reaction. Intestinal hemorrhages were noted on the third day on hospital ward. His abdomen was distended, considerable pain on pressure. Patient died.

On October 12, 1913, Mr. A. B., of Cottage No. 3 South, was seen to be failing physically and was transferred to the hospital ward for examination and observation. At time of admission to hospital ward this patient had a temperature of 103°. He complained of considerable abdominal pain and there was some distention of abdomen. No diagnosis made in this case. It is stated that he died of exhaustion. However, post mortem revealed peritonitis, perforation of ileum, typhoid ulcera-

tion, considerable atheroma of blood vessels with ulceration of aorta. Cloudy swelling of organs.

In view of the occurrence of typhoid on No. 3 South it was deemed advisable that blood be obtained from the patients on that Cottage. Of the entire number, 118, five showed positive Widals. These five cases were referred to the hospital ward where they were placed in isolation for 14 days during which time they were examined frequently. They manifested no clinical symptoms of typhoid yet their blood showed a positive Widal on two subsequent occasions.

As a physician makes daily visits to the wards his attention is occasionally called to some patient who has a diarrhea. The patient is interviewed, a hospital slip made out and the patient placed in care of the hospital physician. He makes an examination, prescribes catharisis to be followed by an astringent. I would suggest here that a Widal be made in all cases of diarrhea in order that we may intelligently rule out typhoid or in case that it is typhoid that we may take steps toward curbing an epidemic.

Taking a broad view of the situation, the fact that the cases developed in various wards of this institution on both south and north sides, and further, that these wards were supplied by separate kitchens, and in view of the fact that we were unable to hold any particular individual employed in these kitchens responsible for the contagion, inasmuch as we had not identified a carrier, we concluded that there must be some common source of supply.

Our efforts were first turned to the water. We have had two sources of water, namely, the artesian, which has provided us with drinking water, and the river which has supplied the irrigation system, and lavatories. On examination the artesian water proved negative. The water forced through boilers and thence throughout the hotwater system came directly from the river. On bath days when a considerable amount of water was needed much of it was forced through the boilers without being sterilized. It is possible that in this way the infection reached our patients, who, I may add, have been seen to drink of this water. Again, patients have been seen to drink the river water used for irrigating purposes. However, our cases of typhoid developed too late in the season for us to consider the water used for irrigating.

The dairy was next visited and Widals made on all employed therein, numbering four. One gave a doubtful positive with a history of typhoid two years before. This patient had up to this time taken an active part in the handling of the milk.

Widals were made on all employees in the culinary department. In the West Kitchen one showed a marked clumping, no history of typhoid, in service since September 1, 1913. In the General Dining Room one showed positive Widal. No history of typhoid except in family four years ago. In service at this hospital since June 5th, 1913. In Rear Kitchen, Mr. B., positive Widal, history of typhoid, employed in kitchen since beginning service one year ago. North Kitchen, Mr. W. L., positive Widal, typhoid ten years ago, in service 18 years.

The fact that positive Widals were obtained in those employees whose business it is to handle much in the way of uncooked food, makes it reasonable to believe that among such might be found a carrier. Efforts were at that time made to have the feces and urine of those showing positive Widals examined with the view of bringing to light a carrier. However, owing to the lack of facilities in our laboratory, such examinations could not be made. We, therefore, were unable to state specifically the source of the infection and hence resort was made to the administration of the antityphoid vaccine with a view of curbing the further spread of the disease.

The basis upon which the practice of antityphoid vaccination has been built is of course the observation that one attack of typhoid almost invariably gives permanent immunity against subsequent attacks. In 1896 Sir A. E. Wright in England and Pfeiffer and Kolle in Germany demonstrated the harmlessness of inoculating killed typhoid bacilli into human beings. Pfeiffer and Kolle placed the procedure on a solid scientific basis. Wright was the first to suggest its use in the armies and in the personnel of hospitals. In 1897 there occurred an epidemic of typhoid fever at the Barming Asylum, Maidstone. The vaccine was administered to 100 attendants with gratifying results. In 1900 the British War Office authorized the use of the vaccine but vaccination was voluntary. The results were not satisfactory. In fact, during the Boer War little or no record was kept and theretofore their experience in a measure is of no statistical value. About this time many unfavorable reports were received at the British War Offices, asserting

that the vaccine did no good, many maintaining that it actually increased the number of cases and deaths. The British government thereupon decided to investigate the matter, and appointed Dr. C. J. Martin of the Lister Institute and Sir William Leishman as members of the commission. Especial attention was given to its manufacture and dosage. As a result several important changes were made in Wright's vaccine.

Shortly after this in Germany a commission consisting of members of the staff of the Institute for infectious diseases, was appointed for the purpose of investigating the various vaccines at that time prepared by Pfeiffer and Kolle, Wright, Neisser-Shiga, Wassermann and Bassenge-Rimpau. They found that the Pfeiffer-Kolle vaccine gave a much greater degree of protection than any other. It consisted of a salt solution suspension of fresh agar cultures of typhoid of such strength that one c. c. contained two normal loopfuls, 4 mg. of fresh bacterial substance. The bacteria were killed by heating the flasks from 1½ to 2 hours in an incubator regulated at 60 degrees C. After tests of sterility ten per cent. of a 1/20 solution of phenol was added. At first the dose was 1, 2 and 3 loopfuls of killed culture contained in 0.5, 1.0 and 1.5 c. c. of vaccine. This dose produced severe general and local reactions and it was therefore, reduced to 0.4, 0.8 and 1.0 cc. The interval between doses was ten days and the injections were made in the breast at the level of the 7th rib.

The experience of the German investigators may be briefly summarized as follows: There was a reduction among all vaccinated of one-half in the number of cases, a much higher per cent. of light attacks and a much lower per cent. of fatal cases. They proved also that little was to be expected from one dose. Of those receiving 1, 2 and 3 doses the comparative mortality per cent. was 60, 33 and 8 respectively.

Leishman in England claimed that the cause of the relative failure of the vaccine in South Africa was due not to any faults or dangerous elements in the properties of prophylactic vaccination but to the use of improper dosage of an over-heated and comparatively inert vaccine which simply failed to give desired protection. Leishman reduced the amount of heat used in killing the cultures and also diminished the doses. The dose adopted and now used in practically all countries is between five hundred million and one billion bacilli, as this quantity was sufficient to produce an abundance of immune bodies and rarely caused severe reactions.

In 1909 anti-typhoid vaccination was taken up in this country with a firm conviction as to its value. Its administration was at first limited to the laboratory forces at the army medical school. They then called for volunteers among the medical officers. By the end of 1909, 1187 had received the prophylactic treatment. During 1910, 16,073 additional volunteered. On the occasion of the mobilization of the maneuver division in Texas in March, 1911, typhoid vaccination was made compulsory. The United States Army experience up to that time showed that it caused few severe reactions in healthy persons, and that no vaccination, however severe the immediate reaction may have been, had been followed by permanent injury to the individuals and further that by all possible laboratory tests the immunity conferred was identical with and equal to that remaining after typhoid fever.

In March, 1911, the largest body of troops since the Spanish-American War was gathered along the Mexican frontier. Typhoid prophylaxis ceased to be academic and became a practical question insistent on solution. Incinerators for the destruction of excreta by fire were forbidden. It was thought that in 8 weeks, through the agency of flies, crowded camps and more crowded tents that there would be some cases of typhoid. Vaccine was administered to the entire number, namely, 20,000, as rapidly as they arrived at camp. In San Diego where 3,000 troops were encamped, there were no cases of typhoid, yet in the city near by there were several. For a period of four months 13,000 troops were located at San Antonio and it is stated that all of the elements which tend to affect adversely the health of men under canvas prevailed there. However, but two cases of typhoid developed as compared with 1729 positive and 2693 probable cases of typhoid that occurred at Jacksonville in 1898. This provides a striking illustration of the efficiency of vaccine.

It is stated by Dr. F. F. Russel of the United States Army that of 700 men who had received vaccine and who made a practice march of 600 miles through a part of Tennessee where typhoid fever is endemic throughout the year, no typhoid developed. In the previous practice in the same

territory ten cases developed but wholesale vaccination practically stopped the spread. In the army typhoid vaccine is administered at the beginning of each four year period of enlistment. Not because the immunity has disappeared by that time for its duration is not yet known.

According to government reports of over 88,000 enlisted men in the United States Army during the year 1913 there were but 12 cases of typhoid.

According to Dr. Russel's experience the most marked reactions occur following the administration of the first dose of vaccine, but the per cent. of severe reactions was small, namely, 0.3 of 1 per cent. of the number receiving vaccine.

In view of the success met with in establishing immunity, we decided to vaccinate all patients and such employees as would submit to it. On September 13th, 1913, work was begun on Cottage No. 10 North, where the first cases of typhoid fever appeared.

The vaccine was prepared in our laboratory. Each c. c. of the vaccine represented one billion of killed bacilli.

The site selected for injection was the external surface of the arm about four inches above the elbow. The field was prepared by first washing with tincture of green soap and water, followed with alcohol. The vaccine was injected well under the skin and the field again washed with alcohol. In no case was there any infection resulting from the puncture. The same needle was used on all patients of a ward, but between patients the needle was immersed in 95% alcohol and wiped with sterilized gauze.

Three doses of vaccine were administered ten days apart. The first dose was 0.5 c. c.; the second and third doses 1.0 c. c. each. This represented the introduction of 500 million and one billion of immune bodies respectively. The patients, both male and female, were given the vaccine as rapidly as it could be manufactured.

The most severe constitutional reactions followed the first injection.

On the male side of 1595 receiving the vaccine but four manifested any marked constitutional reaction. In four instances the temperature rose to 102° and 104°, with headaches, chills and nausea. In one of these cases there was also a marked reaction following the second injection. In one case an urticaria appeared a few hours after the first injection.

Received Vaccine	Reacted	Per cent.
1595 Male	4	¼ of 1%
1455 Female	15	1%
100 Employees	20	5%

There was a larger number of females who reacted, and especially was this so on Cottage No. 5 North where some of our best patients reside. We cannot draw any definite conclusion from this except that the most demented probably did not complain. Of the 20 employes who manifested constitutional reactions 15 were somewhat severe. The most severe reactions, however, occurred in those who had had typhoid. They suffered severe headaches, nausea, rise in temperature as high as 103°, with chills. In all cases there was some local reaction in the way of redness and swelling, but none required dressings.

The administration of the anti-typhoid vaccine stopped the further spread of typhoid fever in this Institution. The prophylactic has met with marked success in the army and there is no reason why it should not be used in institutional and civil life. Especially in institutions, where typhoid so frequently appears, its use cannot be too strongly recommended.

The Kankakee State Hospital is the first institution to use the anti-typhoid vaccination on so large a scale and we feel that its efficacy is undoubted. The extended use of this vaccine will hasten the time when typhoid will become a negligible factor in our public health problems.

ANNULAR OPACITY OF THE ANTERIOR SURFACE OF THE LENS AFTER TRAUMATISM*.

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In 1903, and again in 1906, before the International Medical Congress at Lisbon, Vossius first called attention to ring-shaped opacities of the anterior surface of the lens after contusions without rupture of the eyeball, observed a few days after the injury on six cases, which at his instance were described in detail by A. Keller in his dissertation. In ophthalmoscopic examination, after dilatation of the pupil, with the plane mirror and strong con-

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vex lenses, the affection appeared as a central, ring-shaped, dark opacity before the red reflex of the fundus. It had a diameter of about 3 m. m. as the pupil of medium size, and lay where the pupillary margin rests on the anterior capsule, resembling an impression of the pupillary margin. The ring consisted of small dots, in some cases it had a brownish color, which, on oblique illumination, were recognized as deposits of pigment. In two cases there was also a grey, striated opacity of the capsule. Within four weeks the ring disappeared without traces and with restoration of normal vision.

Since then about 26 cases have been published by others, thus altogether about 32. I can add another case which I think will, by the nature of the injury, contribute to the explanation of the mechanism of the affection.

History: A boy aged 13 years, was, on July 21st, 1909, shot in the right eye by a playmate with a rifle loaded with dirt. The next morning I found the eyeball injected and a haziness of the inferior nasal quadrant of the cornea up to the pupillary area, showing three larger infiltrations. The lower sinus of the anterior chamber was filled with a hyphema, and a large blood clot extended from it upwards, covering the temporal portion of the iris, but not the ciliary margin, a smaller one lay on the nasal portion of the iris. The pupil, of medium size, reacted unequally to light, the lower portion of the iris not responding as promptly. The iris was not tremulous. Tension was the same as that of the other eye. The ophthalmoscopic view was not quite clear on account of the opacity of the cornea. The pupil dilated readily to atropin. A bandage was applied and the patient put to bed. July 22: 6 P. M., less blood in anterior chamber. July 24: Hyphema was entirely absorbed and the eyeball less red. July 25: The opacity of the cornea had considerably cleared up. July 27: The diffuse opacity of the cornea had entirely disappeared, only a few opaque dots were left. R. V. 20-70. Ophth.: An old pigmented chorioidal focus in temporal portion of fundus. Myopia.—1.50. Left eye V. 20-40, with —1.50 20-20. A large, old, white, atrophic patch of the chorioid, partly surrounded by pigment above the disc. The patient stated that he had trouble with seeing before and had to have a front seat in school. He has not worn glasses.

The anterior surface of the right lens showed in atropin mydriasis a very faint ring-shaped opacity of the size of the normal, medium sized pupil. It consisted of a regular circle, composed of very fine dots, which were best seen with the ophthalmoscope with +32 behind the concave mirror, but could also be seen with +12. On August 14, this opaque ring had entirely disappeared. April 30, 1910, V. 20-50—in each eye. R. with—1.25 20-20. L. with—1.50 20-20.

Sept. 23, 1911, the right eye had remained in the same condition, V. 20-70, with—1.25 20-20, but vision of left eye was only 20-100, with—1.50 20-70. The ophthalmoscopic picture was veiled by numerous floating opacities and membranes of the vitreous, but upwards of the old large chorioidal patch was a recent whitish exudation. The optic disc appeared hazy, especially at the nasal side. The boy was kept out of school so that he could be out-doors as much as possible. Under derivative treatment the opacities of the vitreous became less dense, so that on Oct. 21, vision was better. Nov. 4: V. 20-70+. The opaque membranes were breaking up. Nov. 22: V. L. 20-50, with—1.50 20-30. Dec. 17: There was still quite a mass of opacities of the vitreous. Dec. 28: Details of fundus seemed clearer. Feb. 6, 1912: V. R. 20-50, V. L. 20-50, with—1.50 20-20+. The opacities of vitreous were much thinner. April 10, 1912: V. L. 20-40, with—1.50 20-20+. Opacities still there, floating rapidly. The chorioidal patch was flattened. June 6, 1912: Still some floating opacities, but V. in each eye with—1.50 20-20.

Our case showed the characteristic typical affection as described by Vossius and others after contusion by a rifle shot, and consisted in a regular circle of opacity at the center of the anterior surface of the lens, concentric to the pupillary margin, of a diameter of about 3 m. m. It was not visible on oblique illumination, but after dilatation of the pupil in ophthalmoscopic examination with a strong convex lens behind the concave mirror it was composed of very fine opaque dots and lines, and was noted 6 days after the injury, after the blood in the anterior chamber had been absorbed and the opacity of the cornea had cleared up. In most cases the opacity formed a regular circle. This was in some as thin as hair, in others it was broader, then again the temporal portion was sharply defined, the nasal segment was slight and ill defined, or only a semicircle was visible, or the circular line was interrupted by clear gaps. In

some cases the opacity was oval, e. g., in a case of Caspar, (Klin. Mon. f. Aug., 1909, 47, I., p. 606), complicated by prolapse of iris. In a case of Löhlein, (Zeitschr. f. Aug., 20, 1908, p. 365), the corneal microscope showed that the circle consisted of radially arranged dots and lines of different sizes, extending over the area of the circle towards the center, forming an opaque disc with the stronger marked outlines. Also in Gifford's second case the whole visible area of the lens was dotted, (Ophthalmology, Jan., 1909, V., 2, p. 238). Hescheler, (Klin. Mon. f. Aug., 1910, 48, II., p. 443), observed downwards from the ring a cone-shaped opacity extending to the periphery, and toward the upper medial side was a second opacity of the size of the head of a pin. The width of the circular line fluctuated between ½ m. m. and 1 m. m. and the saturation of the opacity was not equal at all points. Höeg, (Klin. Mon. f. Aug., 47, I., 1909, p. 593), saw with the ophthalmoscope a hardly noticeable diffuse opacity of the area of the circle, and in the lower portion of the lens, at some distance from the ring, a few fine radial black stripes. Neither the ring nor these stripes were noticeable on oblique examination. In another case of Höeg (ibid., p. 608) there was no ring, but the opacity of the lens was bordered by a rounded corner, corresponding to the upper former side of the temporal pupillary margin, consisting of an upper, slightly convex, almost horizontal, and a temporal, also slightly convex, almost vertical, line. The opacity itself showed marked separated radial lines, between which the lens was transparent. Natanson, (Klin. Mon. f. Aug., 1908, 46, I., p. 537), observed in a case of contusion with perforation of the cornea upon focal illumination a marked glistening, fine, completely closed, circle, as thin as hair, of the diameter of the normal pupil, of densely arranged dots and fine lines. Outside of the circle and in connection with it were dark brown pigment stripes from posterior synechiae or at their former seat, after being torn by atropin. This proved that the opaque ring corresponded exactly to the place of the normally wide pupil on the anterior capsule. The axial portion of the lens was opaque, which on the next day assumed the form of a star with saturated center and radial spokes, and subsequent total opacity of the lens after a month.

As in our case, the opacity was generally observed several days after the injury, as soon as the condition of the eye permitted a thorough ophthalmoscopic examination, the earliest a few hours after the accident. Hence it seems most probable that the opacity was produced at the time of the injury or very soon afterwards. Caspar, (Klin. Mon. f. Aug., 1909, 47, I., p. 606), observed a case with perforation of the cornea with prolapse of the iris, in which the opacity had not the usual form of a ring, but appeared oval, drawn out in a point downwards and laterally, corresponding to the defect of the iris. He infers from this the origin of the opacity from contusion by the pressure of the pupillary margin to the lens at the moment in which, previous to the prolapse of the iris, the pupil was already deformed in the direction of the place of the rupture of the cornea and had momentarily assumed the oval shape. Also the observations of Vossius, Nicolai, (Archiv. für Aug., 67, p. 243), Mertz, Löhlein, and others, that in some cases the ring had a brownish color, due to granules of pigment of the iris, indicate that this pigment must have been pressed out of the iris by the contusion and become fixed on the anterior capsule by fibrin in connection with the opacity. This must have occurred at the moment of the injury. If the opaque ring is due to changes of the lenticular epithelium, as will be set forth later, and analogous to the opacities, experimentally produced by Schirmer, (von Graefe's Archiv., 36, No. 1, p. 131, and Dissertation, 1887,) it appears after from 1½ to several hours after the injury.

The duration of the ring-shaped opacity in our case was about 3 weeks. According to others it fluctuates between a few days and two months. The areal opacity in the above mentioned case of Höeg had disappeared after half an hour. He therefore attributed it to deposits on the anterior capsule, as produced experimentally by Bäck, and the brownish color to admixture of fibrin and red corpuscles, which explains also the synechiae after contusions (p. 611). Also Löhlein, (Zeitschr. f. Aug., 20, 1908, p. 366,) assumes from his case that at first always a disciform opacity exists with a more saturated circumference and that the central opacity of the ring disappears rapidly and thus generally escapes observation. In some cases the ring remained unchanged for from 6 to 18 days. Generally it soon grows fainter, the circular line is interrupted and finally is dissolved into single dots and disappears entirely. Vossius stated that the pigment is also absorbed, whereas the brown

ring, occasionally observed after torn synechiae in plastic iritis, does not subside entirely. In the cases in which a complete absorption of the opacity was not ascertained the time of observation was too short, (29 days the highest), but absorption had commenced, so that its final completion may be surmised. Purtscher, (C. Bl. f. Aug., 37, 1913, p. 290,) observed in three of his six cases a rapid disappearance of the opacity after operations, two punctures of the anterior chamber and one of the vitreous chamber, in two the next day and in one on the fourth day when the abundant hemorrhage into the anterior chamber was absorbed and permitted an inspection of the lens.

The opacity itself does not essentially impair vision if this does not suffer by complications from contusions, which more or less accompany the ring-shaped opacity. Our case was complicated by opacities of the cornea and hemorrhages into the anterior chamber and on the iris. In other cases were found subconjunctival hemorrhages, conjunctivitis, various forms of superficial and deep opacities, erosions, ruptures of the cornea, ruptures of the sclera, mydriasis, miosis, hyphema, and extravasations on the iris, gelatinous, fibrinous exudations in the anterior chamber, iridoplegia, anterior and posterior synechiae, iridodonesis, ruptures of the sphincter of the iris, rupture of the zonula, star-shaped opacities of the lens, opacities of the vitreous, edema and hemorrhages of the retina, papillitis, ruptures of the chorioid, extensive atrophic and pigment changes of the fundus.

The chorioidal changes in our case were old and had nothing to do with the injury, as the other, not injured, eye presented them in a higher degree.

Natanson and Löhlein point out that occasionally the typical annular opacity of the anterior surface of the lens may for the expert in forensic and accident matters be an important evidence of a preceding contusion of the eyeball.

As an illustration to this I am able to quote the following case, related, in the discussion to this paper, by Dr. H. S. Gradle, of Chicago: "G. M., aged 20, during work one month ago suddenly became blind. He was hammering on steel at the time, but was not conscious of any injury. No positive history of any sort could be obtained because of the lowered mentality of the patient and the poor quality of the interpreter. *Status Praesens:* Right, normal. Left, eye reddens slightly upon manipulation. Cornea normal. No sign of trauma and positively no trace of perforation visible. Pupil dilated with atropin. Iris normal. Lens slightly swollen and opaque, especially in posterior cortical layers. No capsular rupture. The center of the anterior capsule is opaque in the form of a disc about 5 m. m. in diameter. The periphery of this disc is denser than the center, forming a circular band about ½ m. m. wide. This denser area is nearly uniform, but still shows some guttate character. The opacity of the center of the disc is practically uniform. Apparently no light perception or projection. T.—.

The question then arose: was this a perforating injury with the site of perforation completely healed and subsequent traumatic cataract? was it a primary detachment of the retina with secondary cyclitis and cataract? or was it a blunt trauma with a Vossius lens opacity, secondary cataract, and some indiscernable lesion of the fundus, as hemorrhage, etc.? I decided in favor of the latter because of the peculiar opacity of the anterior capsule and complete absence of any signs of trauma. As it was a medico-legal case, I was unable to delve further into the history, nor have I seen the doctor that originally took care of him."

Vossius, (Klin. Mon. f. Aug., 44, I., 1906, p. 566,) explained the ring-shaped opacity by an impression of the pupillary margin on the anterior surface of the lens. By the pressure of the indented cornea, forcing the iris against the lens, either pigment is expressed from the cells of the pupillary margin and fixed by fibrin on the anterior capsule of the lens and one sees upon focal illumination a brown ring, or an unpigmented grey ring-shaped opacity is produced by the pressure, through the indented cornea, of the iris to the capsule, with subsequent degenerative changes of the capsular epithelia, similar to the changes of the capsular epithelia in contusion cataract, produced experimentally by Schirmer, which disappears by regeneration of the capsular epithelia and becomes invisible for ophthalmoscopic examination.

This explanation of Vossius was adopted by most of the later authors. Höeg, (Klin. Mon. f. Aug., 47, 1909, p. 602,) however, leaves it undecided whether it is an impression of the pupillary margin, or of the thickest and firmest part of the iris, the sphincter, and thinks it more correct to explain the opacity by an impression of the pupillary portion of the iris.

In our opinion this may be true in cases where

a very broad ring was found, but not in the majority, where the diameter of the impression was given as 3 m. m., which corresponds to the normal width of the pupil, whereas the diameter of the circle of the sphincter is larger.

Histologically Vossius attributes the grey ring to degenerative changes of the capsular epithelium, produced by the pressure of the iris on the lens, analogous to the experimental findings of Schirmer, (Inaugural Dissertation, 1887). Schirmer introduced through a small peripheral section of the cornea a fine blunt-pointed probe to the opposite pupillary margin and in pulling it out let it softly slide on the anterior surface of the lens in such a way that he had the distinct feeling of an elastic resistance. He regularly found a linear, more rarely a longitudinal, oval opacity with not sharply defined borders, on the touched region. On oblique illumination it had a greyish opaque color and seemed to be immediately under the anterior capsule, sometimes it was so faint, that it could scarcely be perceived, and in transmitted light was mostly transparent, otherwise granular blackish. It appeared earliest 1½ hours after the operation, more frequently after from 3 to 12 hours, sometimes later. Its greatest intensity was marked after from 36 to 48 hours, when it began to decrease, and disappeared entirely within the next few weeks, sometimes after a few days. Only in one case it did not show any changes after 3 weeks. Microscopically he found no alterations of the capsule, but degeneration and regeneration of the capsular epithelial cells at the region which had been touched by the probe, or so near to it that a contusion by the capsule, pressed unto the lens, could be assumed, and, if the contusion was more intense, a shallow impression of the lens fibres at the place of contusion. The appearance and the course of the ring-shaped opacity shows such a striking resemblance to these observations of Schirmer, that the histological processes in both seem identical.

Leber, (Graefe-Saemisch, 2nd Edition, II., p. 446,) produced on the recently removed lens of an ox by massage or simply stroking with the blunt point of a probe numerous and extensive lacerations and foldings of the epithelium under the intact capsule. If this lens was placed in a solution of methyl blue, only the injured epithelium and the part of the cortex, corresponding to it, was stained intensely blue and retained the color, while the remaining portions of the lens rapidly lost the superficially adherent coloring matter to the surrounding vitreous. Hence Leber is inclined to ascribe the swelling and opacity of the lens by massage to the laceration or destruction of the lenticular epithelium, so that the protection furnished by the epithelium against the imbibing effect of the aqueous is eliminated.

Also the more recent experimental investigations on the creation of cataract by massage of the lens of the rabbit by Demaria, (von Graefe's Archiv. für Ophthalmology, 1904, 59, p. 568,) throw light on the condition. The anterior surface of the lens was directly massaged with the back of a spoon of tortoise shell from three to four minutes. After from six to twelve hours a diffuse greyish white opacity was localized in the anterior cortex, which remained stationary or progressed. The capsule remained intact and transparent. If the massage was intense, the opacity never disappeared. Demaria, however, concedes this clearing up as observed by Hess and others, and thinks that the reason why he never noticed it, was perhaps because he did not control the animals longer than twenty-five days.

As early as thirty minutes after the operation the microscopical examination showed that the capsular epithelia at the central portions were lacking, and the detached epithelia were enclosed in a coagulated stratum of fluid. After 1½ hours the degeneration commenced in the epithelial cells. Their protoplasm became granular and was absorbed after about six days. The first changes consist in the mechanical detachment, lacerations, and foldings of the capsular epithelia as the direct consequence of the massage. The degenerative phenomena in the epithelial cells are secondary and not only the consequence of the traumatism but also of the presence of fluid which penetrated under the capsule and thus due to disturbances of nutrition. As soon as the epithelium is detached the impediment for the entrance of aqueous is removed and the aqueous forms the subcapsular stratum, leading to subsequent changes of the lens fibres. Here Demaria differs from Schirmer who considers the degeneration of the epithelial cells as primary. The detached epithelium is replaced by new epithelia by enlargement of the preserved epithelia and karyokinesis, which takes about eight days.

Hess, (Graefe Saemisch, III. Ed., Chapter 9, p. 268,) occasionally saw a few hours after massage

slight opacities of the anterior cortex which, even if extensive, disappeared in a few days. He found in the early stages numerous figures of division of nuclei in the capsular epithelia.

For the cases in which the ring-shaped opacity showed pigment also that, according to Vossius, was pressed out from the iris and fixed by fibrin on the anterior capsule, the experimental investigations on contusion of the eyeball of rabbits by Bäck, (von Graefe's Archiv. für Ophthalmologie, 47, I., p. 101,) give an explanation. Bäck found ten minutes after contusions with a lever apparatus a cloudy transudation in the anterior chamber with miosis, which gradually disappeared after three-quarters of an hour with the increasing dilatation of the pupil. Anatomically the anterior chamber was filled with partly granular, partly filamentous, contents, but only in the anterior surface of the iris and in the pupillary area, never at the region of the ciliary processes. Bäck sees the cause of the transudation after traumatism in an alteration of the vessels of the iris, a paralysis, produced by the contusion, which led to extravasation of albuminous substances of the blood. This process seems to be similar to that after puncture of the anterior chamber, which probably causes by the sudden diminution of tension an alteration and expansion of the vessels of the iris with extravasation of fibrinous substances of the blood. Microscopically he found the vessels of the iris abnormally large, tensely filled with blood and the tissue of the iris edematous.

The observation of Purtscher, (C. Bl. für Aug., 37, 1913, p. 290,) of rapid disappearance of the annular opacity in three cases, after evacuation of aqueous in two, and a magnet extraction of a piece of iron from the vitreous through meridional section of the sclera, seems to confirm the anatomical identity of the affection with these experimental findings. Purtscher surmises that in all three cases the mechanical relations of the tension of the capsule, respectively of the lens fibres, contributed to a rapid adjustment of the disturbances through opening of the prelental, respectively retrolental space.

With regard to the mechanism of the origin of the ring-shaped opacity Vossius and others assumed an indentation of the cornea incarcerating the iris between the lens and the indented cornea. From our observation we cannot agree with this view, which was also opposed by others. Höeg for instance mentions that the completeness of the ring, observed in the majority of cases, speaks against it as it would, according to this theory, necessarily be the consequence of an exactly central indentation of the cornea. As this most likely is an exceptional case, one would expect more frequently a partial or unequally marked ring. This has been observed in some cases and been utilized for the explanation of an indentation of the cornea in an oblique direction. We can, however, not accept this as proof, as the affection was noticed generally a few days after the injury, and the imperfect ring then found was in our opinion much more likely in the stage of absorption, which as we saw is characterized by such incompleteness. According to Höeg also the regular circular form and the diameter of the ring which is that of the normally wide pupil speak against an indentation of the cornea, because this would have to be so intense, that the displacement of the aqueous must have influenced the size and form of the pupil. An effective compression of the iris between indented cornea and lens cannot take place unless a very extensive applanation of both surfaces occurs. This is not conceivable without displacement of the aqueous, and if the whole pupillary margin should be incarcerated, the aqueous could not be displaced without rupture of the iris or cornea. Besides the capsular epithelia in the center of the pupil would suffer a greater compression and one must expect that the opacity would be most marked in the center.

The shape of the injuring bodies speaks also against an indentation of the cornea, as in most cases they were too small or too large.

Our case renders the assumption of an indentation of the cornea untenable. The injury occurred by a shot of a rifle loaded with dirt, etc., an explosion. Explosions produce superficial or penetrating wounds, various forms of contusions of the eye, partly by foreign bodies, hurled against the eye, partly by the explosive mechanical force of increased air pressure. In our case this air pressure, no matter from which direction it struck the eye, was the important element, which caused a sudden increased pressure in the aqueous producing the opacity by pressing the iris to the anterior surface of the lens.

This view is also supported by a case of Steiner, (Klin. Mon. f. Aug., 48, I., 1910, p. 60,) in which an indentation of the cornea was excluded. A man

shot himself in the temple with a revolver. The bullet entered the orbit, destroyed the optic nerve, and caused an intense contusion of the eyeball from behind with a momentary considerable increase of intraocular tension. The ring-shaped opacity on the anterior surface of the lens was produced by the increase of the pressure of the aqueous in consequence of sudden protusion of the lens. Also Purtscher, who observed a case in which a direct contusion of the cornea was excluded, as well as Höeg, reached the same conclusions.

Physically the eyeball represents a capsule filled with liquid. According to Pascal's law pressure exerted anywhere upon a mass of liquid is transmitted undiminished in all directions, and acts with the same force on all equal surfaces, and in a direction of right angles to those surfaces. From the experiments of Monnik, (von Graefe's Archiv. für Ophth., 16, I.., p. 87) Koster, (von Graefe's Archiv. für Ophth., 41, II., p. 97) Hamburger, and others, we know that there is no discernable difference, certainly below 1 m. m. Hg., between the pressure in the anterior chamber and that in the vitreous. The lens and iris form a perfectly movable diaphragm, through which any increase of pressure in either chamber is at once conveyed to the other.

By recent experiments with injections of neutral red into the anterior chamber Hamburger, (Deutsche Med. Woch., 1914, No. 25, p. 1289) found that only the anterior capsule of the lens in the pupillary area is stained, and sees in it a new proof of his former contention of the physiological seclusion of the anterior from the posterior chamber by the contact of the pupillary margin with the anterior capsule of the lens. Hence, in increased pressure of the aqueous or the vitreous, of whatever cause or direction, the iris can be pressed to the lens only at this place, leaving an impression of the pupillary margin on the anterior surface of the lens, which I think fully explains the mechanism of the development of the annular opacity. That the number of cases of annular opacity of the lens published is comparatively small may be due to the fact, that it may be easily overlooked, as vision is not essentially disturbed by it, or there may be a certain predisposition in the individual cases. Purtscher, (C. Bl. für Aug., 37, 1913, p. 289) emphasizes the fact that almost all patients were young people and thinks that a young and therefore softer, lens gives especially favorable conditions for the occurrence of an impression of the pupillary portion of the iris. As according to the investigations especially of Demaria the histological alterations must be considered as disturbances of nutrition in the capsular epithelium, the chorioidal changes in our case, and also in some others, may indicate a lowered nutritive resistance of such eyes and a more responsive predisposition to degenerative processes.

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ABSTRACTS

ON LYMPHOCYTOSIS IN SYMPATHETIC OPHTHALMIA. Purtscher, Adolf, and Koller, Ewald. (from the eye clinic of prof. E. Fuchs and the medical department of Prof. Kovaes in the University of Wien. von Grafe's Archiv für ophthalmologie, 83, II, p. 381), report in tabular form the clinical histories of 9 cases of sympathetic ophthalmia in which the hematological examination disclosed with absolute certainty lymphocytosis. In 4 the histological examination by Dr. Meller showed typical sympathizing infiltration of the uvea, and in the others the clinical course left no doubt as to the nature of the disease. The highest amounts of lymphocytes were found in the most recent case. 10 days after the

outbreak of sympathetic ophthalmia. In the further course the number of lymphocytes almost invariably declined, with different speed in the individual cases. While in the majority the increase of lymphocytes diminished in a few months, their number was still very high in 2 cases many years after the onset of sympathetic ophthalmia. These were the cases in which the sympathizing eye remained and the inflammatory changes clinically never healed entirely. Since in all cases the hematological examination was made after the certain outbreak of sympathetic ophthalmia no conception could be gained as to the time, in which the alteration of the blood set in, which of course would be very important for eventual early diagnosis utilization. In order to describe the question whether this lymphocytosis occurs only in sympathetic affections of the uvea or also in other forms of iridocyclitis the authors examined the blood of 7 cases of traumatic iridocyclitis and 9 others, 2 of which appeared to be tuberculous iridocyclitis. They all showed normal or subnormal amounts of lymphocytes. C. ZIMMERMANN.

ON CONJUNCTIVITIS BY ASCARIDES. Doff, H. (From the eye clinic of Prof. Th. Axenfeld in the University of Freiburg. Klin. Mon. für Aug., 50, II, Dec., 1912, p. 670.) As ascaris-conjunctivitis is a form of acute inflammation of the conjunctiva, caused by the action of coeloma fluid expressed from the skin-muscle-tube, intestines and sexual apparatus of ascaris lumbricoides, (ascaris megalocephala), on the conjunctiva. Ophthalmological literature contains only 2 publications, while Goldschmidt collected about 20 cases furnished by zoologists while preparing ascarides for scientific purposes.

D. reports 2 cases, and his experiments with the fluid on persons and animals with the following results: The coeloma fluid of the ascarides contains a substance which in especially predisposed individuals, if brought into the conjunctival sac, may immediately produce very violent inflammatory phenomena: intense chemosis with lacrimation and burning, swelling of the lids, so that the palpebral fissure may be covered. After from 12 to 24 hours the inflammation subsides, and the eye is again normal in from 3 to 4 days. Cornea and the deeper structures remain intact. If the instillation is repeated the inflammatory changes decrease in intensity, analogously to the action of dionin; an habituation takes place. The susceptibility varies according to the species of animals and single individuals. All transitions from complete immunity to the highest hypersensitiveness are encountered. The disposition cannot be modified by ingesion or withdrawal of lime. The inflammatory phenomena are not elicted by reflex, as anesthesia of the conjunctiva does not prevent them. The point of attack by the coeloma fluid is with great probability the vascular wall, since its effect cannot be checked by adrenalin. Hence it belongs, with a series of animalic and vegetable poisons (tuberculin, pollen toxin, etc.), into the group of specific vascular poisons, characterized by the common property that they only act in specially predisposed individuals. Its action probably is that of an alkaloid, perhaps the one found by Flury which acts like sepsin. The effect of the coeloma fluid us not changes by its passage through basterial filtrums. C. Z.

ON THE ACTIONS OF FERMENTS ON THE EYE AND THEIR RELATIONS TO SYMPATHETIC OPHTHALMIA. III. Guillery, H., Coeln, (Archiv für Augenheilkunde, 74, p. 132), showed in his former essays (reviewed in Ophthalmology) that he produced by introducing certain poisons in the eye of the rabbit an uveitis very similar to the sympathizing, and by injecting such poisons into circulation an irritation of the eyes, even if they were perfectly healthy and not treated before. This irritation occurred with the certainty of a physical experience from 1 to 1½ hours after the intravenous injection in form of an intense redness, sometimes with small ecchymoses over the tendon of the superior rectus and spreads as pericorneal injection, from 0.5 to 1.0 mm. wide downwards. It reached its acme after 5 or 6 hours, with marked hyperemia of the iris, contraction of the pupil and exudation. Often the vessels of the fundus were very much dilated. Tension was regularly decreased, sometimes excessively. Any changes in the filling of the vessels of other organs could not be observed. The effect on the general condition varied, some animals tolerated even repeated injections, others showed a certain collapse after the first injection, but G. never lost an animal after one injection. Anatomically G. frequently found only hyperemia, but also extensive infiltrations and proliferations with round and epithelioid cells of the whole uveal tract, either after repeated intravenous injections but more often dependent upon the kind of the introduced poison. He now reports further experiments with the ferments of prodigious, subtilis, proteus, alone or combined, with anatomical descriptions. In contrast to the diffuse and focal infiltrations of the whole uveal tract with round and epithelioid cells, which may develop to intense proliferations penetrating the normal borders of the tissue and spreading into the neighborhood, the retina was normal.

G. concludes that these facts render the assumption of a specific agent of sympathetic ophthalmia unnecessary. After he showed by the constant results of his numerous series of experiments that there are poisons which from the blood elicit an inflammation of the uvea of the diseased and the healthy eye, nothing prevents the assumption that sympathetic ophthalmia may develop in this way, and the conception must be discarded, not only in ophthalmology but also in pathology, that such inflammations must depend on the presence of bacteria. The further task will be to ascertain the source of such poisons, especially whether they originate in the injured eye or anywhere in the body so that a general disease is necessary for the development of sympathetic ophthalmia. A not important part of this task will have to be solved by chemistry. G. thinks that according to the results so far obtained a progress in this direction certainly opens better prospects, than the so far unsuccessful searching for a specific pathogenic agent of sympathetic ophthalmia. The histological conditions are illustrated on plates.

C. ZIMMERMANN.

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EDITORIALS

CHRISTMAS AND THE NEW YEAR.

We have been wont to look upon the age in which we are living as rather prosaic and undramatic and not in the least heroic. And yet when the flame of war has enabled us to view the depths of the hearts of our prosaic and undramatic-looking brothers on both sides of the battle line in Europe, we see there on every side as magnificent a heroism as the world has ever beheld.

There never has been seen a finer courage than has been shown, not by isolated bodies of troops here and there in the field of conflict, but by the armies of all the belligerents in the whole theatre of the war. And this has been shown in the slow, plodding work in the trenches no less than in the more dashing and spectacular phases of the war. Courage is not simply the doing of some brilliant and hazardous feat, it is the quality of mind which makes such an act possible, but it shows itself no less in the steadfast doing of the little duties, the disagreeable commonplaces of war which receive so little mention in the dispatches from the front.

In the practice of medicine we are in a constant state of war against the forces of disease and destruction. And this war is real and earnest, not a mere Fourth of July parade, although the enemy may seem as intangible and elusive as a dream.

About our work there is very little of the "pomp and circumstance of glorious war," most of it is very like that of the soldier in the trenches—plenty of cold and fatigue and watchful nights, with very little gold braid and epaulets.

The practice of medicine can be made as prosaic and commonplace as the raising of turnips, or it can be made the noblest of callings. Its whole character depends upon the quality of mind with which we approach it.

It is well for us, therefore, that once a year there comes a season of at least partial detachment from our work, when we can do with advantage as the Irish drill-sergeant said to his raw recruits: "Step out here and look at yerselves."

At this season we can take stock of ourselves and see in what direction we are traveling. We may well stop to consider whether we are beginning to feel that our patients exist and have illnesses for our benefit, or if we still realize that we exist for their good. We may well review our progress in our work during the year that is closing to see whether or not we are keeping up with the stream of progress. And above all we may well study ourselves to see what is the quality of mind with which we approach our work. Are we trying to see how well we can do our work with the accumulated store of experience which has been handed down to us through the centuries, or are we merely trying to see how much money we can make out of it?

On our answer to this question depends the decision as to whether we belong on the firing-line or in the sutler's tent.

But if we will open our minds to the spirit of the season there will be no doubt in which group we shall be found, for in spite of the sadness of this

Christmas it still brings its message of Peace and Good Will and the New Year still speaks of hope and high resolve.

COMMON SENSE IN VACCINE THERAPY.

There is nothing in modern therapeutics, unless we except the application of the X-ray and of radium, which appeals to the imagination more strongly than vaccine therapy. And there is no department of therapeutics in which the imagination has been given freer rein than in the theories and in the reports of cases relating to this subject which have appeared in medical literature, especially in "proprietary medical literature."

As a corrective for the frequent outbursts of gaseous enthusiasm emanating from the regions of high living and loose thinking where much of the matter written on the subject must have its origin, we wish to commend to the attention of our readers the articles bearing upon Vaccine Therapy by Dr. Frank Billings, and Dr. E. C. Rosenow of Chicago, which are contained in this number of the Journal. And in this connection we may also recall to mind an excellent article on the preparation of bacterial vaccines by Dr. E. V. Bramburgh of Milwaukee which appeared in the October Journal and an editorial in the same Journal on page 207.

These papers taken in conjunction give one a very fair idea of the possibilities and of the limitations of vaccine therapy and their perusal will be well worth while to those whose imaginations have become over-heated on the subject.

THE VASCULAR FACTOR IN THE CAUSATION OF APPENDICITIS.

In a paper recently presented before the Chicago Medical Society, an abstract of which is given in the Bulletin for November 28, Dr. J. D. Robertson gives some interesting suggestions as to the causes which lead to congestion and inflammation of the appendix. To quote the abstract:

"From an embryologic standpoint the appendix and cecum were originally one part, the upper end of this part (the cecum) developed more rapidly than the lower (the appendix). The musculature of the colon, cecum and appendix are continuous. The triband of the colon and cecum extend into and make a complete longitudinal outer muscular coat for the appendix; and likewise, the circular muscular fibers of the cecum are continuous into the appendix and form the inner muscular coat.

"The blood vessels of the appendix, in order to reach the submucous and mucous coats, must pass through these muscles; muscular contractions in the colon and cecum, whether of the circular or longitudinal fibers, are associated with a simultaneous contraction of the muscular coat of the appendix. This contraction is induced by nerve stimulation, the stimulus being induced by the various tabulated predisposing factors of appendicitis as enunciated by many observers, and many others not yet noted.

"The normal muscular contractions and relaxations in the appendix act only to support circulation, but when spasmodic in nature it is overdone and congestion of the mucous and submucous tissues results. The appendix has a peculiar anatomic structure. The submucous tissue is of a spongy nature; there is very little connective tissue support to the large caliber, thin walled, valveless veins. The spasmodic action of the muscles presses upon these veins as they pass out in much the same manner as the erector penis and accellerator urinae act to produce a venous stasis in the corpora cavernosa.

"According to the intensity of this spasm will depend the degree of mucous membranic varicosity and edema and will likewise determine the varying degree of appendicitis. If the spasm be of the mildest degree, the simplest form of appendicitis may occur, the so-called catarrhal appendicitis; if of the maximum intensity, gangrene will quickly follow.

"The bacilli coli commune and other bacteria on the surface of the mucous membrane will not act to produce appendicitis until the circulation has first been interfered with by muscular spasm; and hyperaemia, congestion and even thrombus formation occur before the bacterial invasion of the walls of the appendix. Erection of the appendix can be induced by more or less tension upon the teniae coli.

"The author stated that a course of laboratory experiments are under way to produce artificial appendicitis in animals by the use of certain drugs noted for producing prolonged contraction of the muscles of the intestines. He further stated that hemorrhage and duodenal ulcers following burns

upon the surface of the body, and gastric ulcers occurring in young, neurotic women are induced in a like manner."

THE TREATMENT OF ANTERIOR POLIOMYELITIS.

Ever since the great epidemic of poliomyelitis in the years 1907 and 1908 there have been more than the usual number of cases of this disease in many parts of this country and in some areas small epidemics have been reported.

Cases have not been wanting in Wisconsin and the fact that it may be encountered at any time makes the subject one of ever-present interest to the general practitioner.

In an instructive article in the Amer. Journal of the Medical Sciences for July, 1914, Fraser reports the clinical observations made upon the ninety cases of acute epidemic poliomyelitis admitted to the Hospital of the Rockefeller Institute for Medical Research, New York, during 1912 and 1913. Among the ninety cases Fraser records that in three instances two members of a family were admitted and in a fourth instance two cousins living in the same house. Although in only a few instances a direct or indirect contact with a patient suffering with the disease could be recorded, nevertheless the patients in the hospital at any one time came from the same general locality. Neither the prevalence of insects or the neighborhood of stables was found to be a usual occurrence.

In nearly half the cases the tonsils were noted as enlarged and congested on admission and this is important in view of the possibility of the nose and throat being the chief portal of entry of the infection.

Nothing particularly new appears in the description of the symptomatology of the cases reported, but the frequency of gastro-intestinal symptoms at the onset is mentioned and emphasis is given to the importance of stiffness of the neck and back or pain on attempting flexion as an early symptom. This was present at an early stage in almost every case except those of a very mild character and persisted in some cases as long as three weeks.

Pain and tenderness were relatively frequent in the cases observed.

Among the ninety patients, thirty-one showed definite weakness of the muscles of the face, and in many more a slight involvement was suspected. In five of these cases this was the only paretic symptom, while in the remainder other parts of the body were also involved. This frequency of involvement of the facial muscles is striking and unusual.

As to the subject of treatment Fraser divides acute poliomyelitis into three stages: (a) the acute stage of fever and general symptoms, including the period of onset and spread of the paralysis; (b) the stage of recovery of muscle power; (c) the stage where recovery in muscle power is as complete as it is going to be, and the treatment is applied to the residual condition of deformities, flail-joints, etc.

In the acute stage Netter has attempted to control the disease by the subdural injection of serum from recovered cases but no definite conclusions as to the value of this method have been reached.

Urotropin in rather moderate doses was tried in twenty-two cases and in no instance did this treatment appear to cut short the acute stage, nor was there any evidence of more satisfactory or more rapid recovery of the paralyzed parts.

In eight cases intraspinous injections of epinephrin or adrenalin were administered, from 1.0 to 3.0 cc. of a 1 to 1000 solution diluted with an equal quantity of normal saline being given at a dose. In two cases it was thought that some transitory improvement followed the injections but in none of them could any permanent benefit be recorded.

If care is not taken to obtain a satisfactory posture in these cases the patient may become very restless. When there is rigidity of the neck or retraction of the head the child should be supported on its side or a pillow placed beneath the shoulders or back. Where hypersensitiveness of the skin or deeper structure is present, a wire cradle should be used to support the bedclothes or they may be stretched from side to side of the crib. In the case of a heavy patient a water bed adds greatly to the comfort. The hypersensitive condition of muscles, tendons, and ligaments makes any position of a limb that results in tension on these structures irksome, and it is found that the position of semiflexion is usually the most satisfactory. If an affected arm be allowed to be at the side, the shoulders and elbows are strained, but comfort may be obtained by means of a pad in the axilla to keep the arm from the side, and the position allows the elbow to be conveniently flexed. A pillow under

the knees will in the same way obtain the semi-flexed position of the hips and knees, but in most instances the child appears to be quite comfortable with the legs stretched out, and it seems to be in cases of partial involvement of the hamstrings and abductors that the flexed position is desired. The position of the foot is important, and in the majority of cases requires attention. The weight of the bed-clothes on the foot, and in many cases the weight of the foot alone, will cause an extension of the ankle in cases where the anterior tibial muscles and peronei are affected, and if this is allowed to take place for even a few days, shortening of the flexor tendons results and necessitates not only much pain in correcting the position, but has also a deleterious effect on the recovery of the stretched muscles. A light wire or other right-angled splint to support the foot and relieve the tension on the extensor muscles and tendons should be applied, or the foot simply supported in the desired position with pillows. In the less severe cases that do not remain at complete rest the splint is preferable. In a limb that is not completely flaccid, the muscles, tendons, and ligaments seem readily to become stiff, and no joint should be kept in one position longer than absolutely necessary. In most cases the pain and tenderness have sufficiently subsided in a few days to allow of gentle handling, and the joints can then be carefully moved. As soon as the acute general symptoms have passed off, the joints should be exercised to their full functional movements and the pain of the stiffened structures must not be mistaken for the pain and tenderness of the acute stage, since the resulting limitation of movement will be the more difficult to correct the longer the delay. If the pain is not relieved by posture, hot applications, aspirin, or opium preparations may be necessary.

In the management of the second stage no treatment is known that can hasten the resolution process in the central nervous system, and the muscles must, therefore, be maintained in a condition as satisfactory as possible as regards nutrition, and their control by means of the central nervous system must be encouraged. Their nutrition can be most efficiently maintained by vigorous massage and by other measures, such as hot air or water-baths that stimulate the circulation in the part. The central control can probably be encouraged most efficiently by the voluntary effort to cause the muscle to contract—that is to say, by active exercises. That electrical treatment by galvanic current can do more than act as massage is doubtful, and when the faradic current can cause contraction it would appear to be only a form of involuntary exercise due to stimuli at a point distal to the anterior horn cells, from which the voluntary stimulus is to arise. Electrical treatment may be a useful adjunct to massage and exercises, but cannot replace them. The use of high-frequency currents has been advocated, even in the earliest stage, in the belief that it causes a diminution of the edema in the spinal cord, but satisfactory demonstration of its efficiency is lacking.

As soon as the acute process has subsided massage must be commenced. At first it can only be gentle and for a short period, but as the nurse or attendant gains the confidence of the child, the treatment may be increased in vigor until deep kneading of the muscle masses for twenty or thirty minutes two to three times a day can be borne. Passive movements must be performed at all the joints to prevent any limitation of movement, and it is found that if these are properly carried out from the beginning there is only in exceptional circumstances any troublesome contractures. There is danger in too vigorous application of such movements, which may stretch capsular structures and loosen joints, such as the knee or shoulder. The active exercises must depend upon the age of the child and are most successful in the very young patients if regarded as play. A patient of less than two or three years cannot be taught to perform systematic movements, but can be stimulated to perform these movements in play. Floating toys in a warm bath provide the necessary stimulus, and the water gives a useful support to weakened limbs. A ball or a bright object may be used to encourage movement of an upper limb, and similar tricks may be devised for the lower limbs. The dispositions of the patients are very variable and no two children can be treated alike. Even if no movements of the limbs are seen, the stimulus must be applied and the child helped in the movements at first. The more the child tries, the more successful the treatment. With a child of over three years the intelligence is such that more systematic movements can be employed. Definite exercises against resistance must be detailed for each muscle or muscle group affected. The weight of the limb may be sufficient resistance at first or it may be too great and help must be given, or it may be too

little and gradually increasing pressure against the movement must be employed. Even though no movement is effected it must in all cases be attempted. After the muscles have been loosened and warmed by massage is the best time for the exercises. Before the muscle is strong enough to raise the part, a good method is to raise it passively and then allow the limb to fall slowly by its own weight, telling the child to prevent it from falling. In this way contractions of muscles can early be made effective. The spastic and ataxic conditions occasionally met with should be treated just as the flaccid condition by massage and movements passive and active.

Attention has frequently been drawn to the crippling results of paralysis of the deltoid muscle and to the small extent to which recovery takes place in this muscle. Of the twenty-eight cases of deltoid paralysis observed by Fraser for three or four months after the onset, in fifteen the arm was carefully supported from the first to prevent stretching of the deltoid and of the joint capsule and in only two of the cases was there no improvement, while of the thirteen unsupported muscles five showed no improvement at the end of the same period.

Fraser's paper directs our thoughts with new interest to the importance of watching carefully and intelligently all cases of poliomyelitis far beyond the acute stage and of persisting in our efforts to regain functional use of the affected muscles, not for months only, but for several years.

MISTAKES AND SINS.

"We make mistakes; other people commit sins." A wrong diagnosis after due examination (a thing that happens to all of us) is a mistake, and a pardonable one; a wrong diagnosis arrived at without due examination (a thing that happens to the other fellows) is a sin; medically speaking, it is "the unpardonable sin." That an examination was not allowed is no excuse for a wrong diagnosis. If you cannot convince the patient that an examination is necessary, quit the case; for it is better to lose a patient than to lose reputation. Moreover, do not treat first and examine afterward; for then you may be called on to treat, not only the disease, but also the effects of your own treatment. After an examination has been made, if still in doubt, admit it. If you do not know enough about the case to satisfy yourself, it is not safe to assume that you know enough about it to satisfy the patient; this is not only indifferent ethics, but also bad policy.—*Arthur E. Giles, Clinical Journal, quoted in J. A. M. A.*

ANNOUNCEMENT.

A LABORATORY COURSE FOR NURSES.

The splendidly equipped laboratory at the Milwaukee County Hospital is offering to a limited number of graduate nurses a six months' course in laboratory technique including the actual technique of the Wassermann reaction and the handling of an X-ray machine. No charge will be made for this course. The nurses will also be given room, board and free laundry service in the hospital.

This is a wonderful opportunity for nurses to fit themselves for private or hospital laboratory work. Applications should be made to the hospital or to Dr. L. M. Warfield, 141 Wisconsin St., Milwaukee, Wis.

NEWS ITEMS AND PERSONALS

Dr. P. H. Dietrich has become associated with Dr. J. M. Dodd of Ashland as pathologist.

Dr. George C. Devine, formerly of Mason, but for the past five years on the Pacific coast, has returned, and will again practice at Mason.

Dr. C. A. Squire, Sheboygan, had a narrow escape from serious injury on November 23rd, when his automobile struck a guard chain placed across the approach to a bridge. Painful wrenching of the neck, bruises to the face and some lacerations are the extent of the injuries.

Dr. L. McFarland, Mazomanie, was probably fatally injured in an automobile accident on Nov. 26th. While rounding a sharp curve the steering gear failed, and running up an embankment, the car turned turtle.

Dr. P. J. Christofferson, Waupaca, had one of his fingers amputated at St. Mary's Hospital,

Oshkosh, November 28th, the result of an infection from an apparently slight injury received several weeks ago.

Dr. A. J. Driessel, West Bend, who has been ill for several weeks, has recovered and resumed his practice.

Dr. J. B. Gordon, Shawano and Dr. Mueller of Green Bay have formed a partnership at Shawano.

Dr. L. A. Bishop, for the past forty-five years located at Fond du Lac, has retired from active practice.

Dr. F. C. Moulding, Watertown, sustained a fracture of both bones of the left leg in falling from a step-ladder on November 14th.

Dr. Caroline Hedger, formerly of Eau Claire, now of Chicago, is planning to leave for Belgium to assist in fighting typhoid.

Dr. A. Zeiss, Sheboygan, has been elected county physician for Sheboygan County.

Dr. F. R. Silverthorn, Berlin, suffered a fracture of the left arm in an automobile accident on November 26th.

Drs. Edward Evans and A. Gunderson, La Crosse, have returned from the meeting of the American College of Surgeons, Washington, D. C.

The Milwaukee Council—finance committee—has recommended the purchase of forty acres of land as a new site for the Blue Mound Tuberculosis Sanatorium. The present site will be sold. The new building will cost $50,000. The land will cost the city $16,000.

The new Mt. Sinai Hospital, Milwaukee, was opened on November 12th. The building is strictly fireproof, constructed entirely of steel and concrete, no wood being used. It has a modern operating room, the entire fifth floor is devoted to maternity purposes, a special ward for babies and children, all rooms are sound proof with telephone connection in each, a free dispensary open day and night, and a training school for nurses.

The Dodgeville General Hospital, Dodgeville, was opened on November 27th.

Greenfield Sanatorium, the Milwaukee County Tuberculosis Sanatorium, has enlarged its field of activity by establishing a laboratory for the examination of sputum of suspected cases of pulmonary tuberculosis, free of cost to patients and to the attending physician.

Business relations between Kenosha and Zion City, which were cut off a month ago when the health department of Kenosha established a quarantine against Zion City on account of the smallpox epidemic, were resumed November 18th, when the local board raised the quarantine.

REMOVALS

Dr. A. F. Lyon-Campbell, Dunbar to Ephraim.

Dr. C. M. Griswold, Plymouth to Alma Center.

Dr. H. J. Connor, Superior to Duluth, Minn.

Dr. S. J. Briggs, Sun Prairie to Madison.

Dr. Henry Ogden, Ft. Atkinson to Evanston, Ill.

Dr. William F. Whyte, for many years located at Watertown, has opened an office at Madison.

Dr. W. W. Witcpalek, for the past three years located at Collins, has established an office at Algoma.

Dr. F. M. Hartsook has disposed of his practice at Fennimore to Dr. Clyde Howell, and has removed to Homer, Ill.

Dr. William R. Kennedy, Milwaukee, has established a branch office at Columbus.

Dr. R. R. Harris, until recently in charge of the Old Sanitarium, Prairie du Chien, has removed to Dubuque, Iowa, and has limited his practice to surgery.

Dr. O. B. Lambert, of Escanaba, Michigan, has located at Algoma.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1914-1915

T. J. REDELINGS, Marinette, President
HOYT E. DEARHOLT, Milwaukee, 1st Vice President
SPENCER BEEBE, Sparta, 2nd Vice President
H. W. MORGENROTH, Oshkosh, 3rd Vice President
ROCK SLEYSTER, Waupun, Secretary
S. S. HALL, Ripon, Treasurer

Councilors

TERM EXPIRES 1917
1st Dist., M. R. Wilkinson - Oconomowoc
2nd Dist., G. Windesheim - - Kenosha

TERM EXPIRES 1918
3rd Dist., F. T. Nye - - - - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1919
5th Dist., W. F. Zierath - Sheboygan
6th Dist., H. W. Abraham - - Appleton

TERM EXPIRES 1920
7th Dist., Edward Evans - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1915
9th Dist., T. H. Hay - Stevens Point
10th Dist., R. U. Cairns - - River Falls

TERM EXPIRES 1916
11th Dist., J. M. Dodd - - Ashland
12th Dist., H. E. Dearholt - Milwaukee

Delegates to American Medical Association

A. H. LEVINGS, Milwaukee
J. F. PEMBER, Janesville
J. M. DODD, Ashland

Alternates

M. E. CORBETT, Oshkosh
EDWARD EVANS, La Crosse
C. M ECHOLS, Milwaukee

Committee on Public Policy and Legislation

J. P. McMAHON, Milwaukee, Chairman
C. S. SHELDON, Madison
J. J. McGOVERN, Milwaukee

Committee on Medical Defense

G. E. SEAMAN, Milwaukee, Chairman
S. S. HALL, Ripon
A. J. PATEK, Milwaukee

Committee on Prevention of Tuberculosis

T. H. HAY, Stevens Point
G. E. SEAMAN, Milwaukee
C. A. HARPER, Madison
J. M. BEFFEL, Milwaukee
C. H. BUNTING, Madison

Program Committee

C. M. ECHOLS, Milwaukee, Chairman
L. M. WARFIELD, Milwaukee
ROCK SLEYSTER, Waupun

Committee on Arrangements

H. W. MORGENROTH, Oshkosh, Chairman

NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 6-8, 1915.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	George Harrison, Ashland
Barron-Polk-Washburn-Sawyer-Burnett	B. N. Webster, Rice Lake	E. R. Hering, Shell Lake.
Brown-Kewaunee	W. Weber Kelly, Green Bay	F. L. Crikelair, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knauf, Kiel.
Chippewa	A. C. Nussle, Chippewa Falls	A. L. Beier, Chippewa Falls.
Clark	H. H. Christofferson, Colby	E. L. Bradbury, Neillsville.
Columbia	O. O. Force, Pardeeville	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	T. W. Tormey, Madison	F. S. Meade, Madison.
Dodge	R. E. Bachhuber, Mayville	E. S. Elliott, Fox Lake.
Door	H. F. Eames, Egg Harbor	T. C. Proctor, Sturgeon Bay.
Douglas	C. M. Gould, Superior	W. H. Schnell, Superior.
Dunn-Pepin	L. A. Larson, Colfax	G. A. Baker, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	J. M. Baasen, Mt. Calvary	H. C. Werner, Fond du Lac.
Grant	S. W. Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	W. J. Pearce, Dodgeville	H. D. Ludden, Mineral Point.
Jefferson	C. S. Carmichael, Helenville	W. A. Engsberg, Lake Mills.
Juneau	W. B. Parke, Camp Douglas	A. T. Gregory, Elroy.
Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	H. O. Shockley, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	Joseph F. Smith, Wausau	R. W. Jones, Wausau.
Marinette-Florence	E. E. Axtell, Marinette	R. R. Heim, Marinette.
Milwaukee-Ozaukee	C. H. Lemon, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	L. G. Sheurich, Tomah	Spencer D. Beebe, Sparta.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
Outagamie	J. R. Scott, Appleton	F. P. Dohearty, Appleton.
Pierce	D. C. Munger, Ellsworth	R. U. Cairns, River Falls.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	E. A. Richy, Park Falls	G. H. McClure, Westboro.
Racine	Emil Tompach, Racine	Susan Jones, Racine.
Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center.
Rock	J. W. Keithley, Beloit	F. E. Sutherland, Janesville.
Rusk	H. C. Johnson, Glen Flora	Julian C. Baker, Hawkins.
Sauk	F. D. Hulburt, Reedsburg	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham	H. J. Calkins, Shawano.
Sheboygan	I. A. Junck, Sheboygan	Edmund Knauf, Sheboygan
St. Croix	Philip McKeon, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	C. L. Story, Whitehall	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	F. J. Fucik, Williams Bay	Edward Kinne, Elkhorn.
Washington	W. J. Wehle, West Bend	S. J. Driessel, Barton.
Waukesha	F. J. Woodhead, Merton	S. B. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh
Wood	I. A. Mason, Marshfield	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

SIXTY-EIGHTH ANNUAL MEETING OF THE STATE MEDICAL SOCIETY OF WISCONSIN, OSHKOSH, OCT. 6-9, 1914.

DIGEST OF MINUTES OF HOUSE OF DELEGATES.

October 6th, 1914, 8 P. M.

Meeting called to order by the President, Dr. C. S. Sheldon.

Roll call of Delegates by the Secretary.

The Report of Committee on Publication presented by Dr. A. J. Patek, Milwaukee, Chairman and adopted as read.

The report of Committee on Public Policy and Legislation presented by Dr. J. P. McMahon, Chairman, was adopted as read.

The supplemental report of Dr. Sullivan, Madison, was deferred for future action.

Report of Committee on Medical Education presented by Dr. Edward Evans.

Report of Delegate to Council on Medical Education A. M. A. presented by Dr. A. J. Patek.

Report of Chairman of the Council presented by Dr. Edw. Evans.

Report of Councilor from 1st District presented and accepted.

Report of Committee on Medical Defense presented and accepted.

Reports of Councilors from the 2nd, 4th, 5th, 6th, 7th, 8th, 9th and 12th Districts were presented and accepted.

The Report of the Treasurer was presented by Dr. S. S. Hall, Treasurer, and was referred to Auditing Committee.

A communication from the Mayor of Milwaukee inviting the Society to meet at Milwaukee was read by Dr. McMahon, and referred to the nominating committee for recommendation.

Nominating Committee was appointed by nominations from the floor of delegates from each district.

An invitation to the society to meet at Superior was presented by Dr. Conkey and referred to Nominating Committee.

An adjournment was taken to 9:00 A. M., Wednesday, October 7th, 1914.

Minutes of Meeting of House of Delegates, Wednesday, October 7th, 1914, pursuant to adjournment.

Meeting called to order by President.

Roll call of delegates.

Minutes of the previous meeting read and approved.

The report of Councilor from 10th District was presented and placed on file.

The President reported the selection by the Governor from a list presented by the President of Dr. Beffel of Milwaukee as Member of the State Board of Medical Examiners; and the appointment of a committee consisting of Drs. L. F. Jermain, G. E. Seaman and C. H. Lemon, to act as an advisory committee of the Society to work with the Industrial Commission.

The report of Delegate to the Committee on Health and Public Instructions of the Council on Medical Education of the A. M. A., Dr. Edward Evans, was read and placed on file.

The report of the Committee to investigate cancer in Wisconsin, Dr. C. H. Bunting, Chairman, was read and placed on file.

The report of the Councilor of the 11th District was presented and approved.

The report of the Secretary was read, and on motion duly adopted and placed on file.

The matter of Election of Delegates and Alternates to A. M. A. was referred to the Nominating Committee to make nominations.

On motion duly made and unanimously carried Dr. Edward Evans and T. J. Redelings were re-elected councilors in the 7th and 8th Districts.

On motion, duly seconded and carried, the matter of the Election of Committees and Delegates was referred to the Committee on Nominations.

A communication from the Cancer Committee A. M. A. was read by the Secretary, requesting the appointment of an official representative to act in conjunction with that committee, and on motion duly made and carried Dr. L. M. Warfield was elected such representative.

A discussion was had in reference to medical legislation and methods of securing results in the legislature, resulting in a motion duly seconded and carried referring to the council of the State Medical Society the matter of enlarging the committee on public policy and legislation and giving it greater powers and resources.

On motion duly seconded and carried a publicity committee was appointed by the House of

Delegates, the selection of which committee to be referred to the committee on nominations.

On motion duly carried discussion by each member was limited to two minutes.

On motion duly carried Dr. Bunting of Madison was elected alternate of the delegate to the cancer committee A. M. A.

A discussion was held of the matter of a division into sections of the programs of the State Society, resulting in the matter being laid over to another meeting.

On motion the House of Delegates adjourned to meet at 8:30 A. M., October 8th, 1914.

Minutes of adjourned meeting of House of Delegates, October 8th, 1914, 8:30 A. M.

Meeting called to order by President.

Minutes of previous meeting read and approved.

Roll call of delegates.

Report of Councilor of 3rd District presented by Dr. Nye and placed on file.

A motion was duly made and carried to print a digest of the committee reports to be presented to the House of Delegates two weeks before the annual meeting and send same to the delegates in advance of the meeting, to expedite the business of the House of Delegates.

An amendment was made to the foregoing to include a statement of the business likely to come before the House of Delegates.

The report of the Nominating Committee was presented by the Chairman, Dr. Currans, and accepted.

The following resolution was presented by Dr. J. J. McGovern:

Whereas, Twenty-one states have adopted higher preliminary educational requirements for admission of students to the study of medicine, and also require an interneship before a medical graduate can take the state board examination, and,

Whereas, These advanced requirements had been accepted by the American Medical Association and adopted by the council on medical education as the minimum educational requirement:

Therefore, Be It Resolved, That the House of Delegates of the State Medical Society of Wisconsin approves of the plan adopted by the American Medical Association of requiring one or two years of college work besides a diploma from a recognized high-school giving a four years' course, and that the studies in physics, chemistry and biology in the preliminary science year be of college grade; and, be it further resolved,

That we endorse the requirement to make an interneship in a reputable hospital compulsory before the graduate in medicine is permitted to take his examination before the State Board of Medical Examiners, and, be it resolved further,

That the committee on medical legislation be instructed to draw suitable bills to be presented to the next legislature to incorporate these ideas into the laws of Wisconsin.

It was, after discussion, amended by striking out the words "One or" in the resolution, and adopted as amended.

An adjournment was taken to 8:30 A. M., October 9th, 1914.

Minutes of adjourned meeting of House of Delegates, October 9th, 1914, 8:30 P. M.

Meeting called to order by the president.

Minutes of previous meeting read and approved.

The reading of report of delegate to the A. M. A. was dispensed with on motion duly seconded and carried, same to be printed in the Journal.

The same disposition was made of the report of the committee on prevention of tuberculosis.

The report of the auditing committee was presented by the Chairman, Dr. Cairns, and on motion duly seconded and carried was accepted and placed on file.

A motion was duly made, seconded and carried, selecting Milwaukee as the place of next meeting of the Society.

Dr. Zierath, Sheboygan, brought up the matter of limiting payment for physicians' services by the employer under the Compensation Act to 90 days, and after some discussion the matter was, on motion duly made, amended, and seconded, and carried, referred to the committee on public policy and legislation, in conjunction with the advisory committee of the liability board.

The subject of the revision of the constitution and by-laws was amended and discussed, and a motion made that a committee, composed of the president and secretary be instructed to revise the constitution and by-laws and bring a copy of the revision before the House of Delegates at the next meeting, when the House of Delegates shall decide whether a further revision, correction or change shall be made. Motion duly seconded.

The motion was amended to include the name of Dr. Windesheim as a member of the committee, and as amended, was duly passed.

The matter of organization work was taken up at the suggestion of the president, and Dr. A. R. Craig, Secretary of the A. M. A., outlined a plan

of securing members by sending out workers through the A. M. A. and the method of compensation of such workers. After some discussion, the matter was referred to the Council, with power to act, on motion duly seconded and carried.

Secretary Sleyster brought before the House of Delegates the matter of purchase of medical works by physicians through the State Journal or the State Secretary's office and allowing the dealers' discount to accumulate as a fund to be used for legislative work.

The matter was discussed and on motion duly seconded and carried, referred to the Council with power to act.

On motion duly seconded and carried the House of Delegates adjourned.

DIGEST OF THE PROCEEDINGS OF THE GENERAL SESSION OF THE SIXTY-EIGHTH ANNUAL MEETING OF THE STATE MEDICAL SOCIETY OF WISCONSIN.

Morning session Oct. 7, 1914, 11:30 A. M.

Meeting called to order by the President, Dr. Charles S. Sheldon, Madison.

Invocation by the Rev. E. H. Smith.

Hon. John Mulva, Mayor of Oshkosh, delivered the Address of Welcome to the city of Oshkosh, in which he said the nearest and dearest thing to man outside of his own family was the family physician. That the doctors today throughout the state were of very high standing and compared with any in the country. Extended an invitation to the visiting doctors to review the high grade school system of Oshkosh, its parks, libraries and public utilities generally, and extended a hearty welcome to the city of Oshkosh, expressing the hope that the Society would again return to renew acquaintance with the people of that city.

The response to the address of Hon. John Mulva was made by Dr. Edward Kinne, Elkhorn, one of the vice-presidents of the Society. Dr. Kinne expressed the appreciation of the Society at the cordial welcome to the city of Oshkosh and the courtesies extended by the Mayor, and stated that the visiting delegates would avail themselves of the privileges to the best of their ability.

The report of the Committee on Arrangements was presented by Dr. H. W. Morgenroth, of Oshkosh, who detailed the arrangements made for the entertainment and comfort of the delegates during their stay in Oshkosh, including automobile rides, a smoker, luncheon at the home of Mrs. Oviatt for the visiting ladies, a luncheon of the ex-presidents at the Hotel Athearn, a luncheon for the Secretaries' Association at the Hotel Athearn and a reception for the president of the State Medical Society of Wisconsin.

The report of the Program Committee was presented by Dr. Edward Evans of La Crosse, who stated that the program was somewhat different from the former programs of the Society, and was one for the general practitioner; that the heart of the program was that part dealing with the subjects of infections and fractures, which were peculiarly subjects belonging to the general practitioner. He also expressed the belief that the subject of social medicine covered in the program was one to the importance of which the profession should awake; and that the subject of ethics and economics and organization were of such interest as to hold the delegates until the close of the session.

A recess was here taken until 2 P. M., same day.

Afternoon session, Oct. 7th, 1914, 2 P. M.

The Annual Address of the President was presented by Dr. Charles S. Sheldon, Madison, and was printed in the October number of the Wisconsin Medical Journal.

Dr. J. M. Beffel of Milwaukee read a paper on "Our State Board of Medical Examiners."

Dr. J. M. Dodd, of Ashland, opening the discussion, stated that the ideals of the Board were as high as the law permits them to be, and that the work of the Board is entirely harmonious in dealing with the different branches of medical practice. There is no apparent division of lines in the Board, not even as regards the apportionment of offices. He expressed the belief that the best work of the Board is possible under existing conditions.

Dr. J. Van de Erve, Milwaukee, read a paper on "Medical Education—A Retrospect and a Forecast," in which he reviewed the following phases of medical education.

Introduction—Historic perspective.

I. Equipment Needed.

II. The Student Body—physical examination for preparation of—training for contemplated location—limited number—migration.

III. The Teaching Force—qualifications—relations to students, profession and public.

IV. The Curriculum.

Dr. C. R. Bardeen, Madison, opening the discussion, congratulated the author of the paper for taking up the subject of medical education from the standpoint of the ideals of the teacher, and gave it as his opinion that it was necessary to have a certain amount of entrance requirement as a standard enforced by state law, but that requiring any specific number of years of college work did not appeal to him personally as such a state requirement; that it is a good thing for medical schools to have all sorts of standards so that results can be tested. He expressed the opinion that a year of biology, a year of chemistry, and a year of work in English were real essentials beyond the high school courses as they exist today. In proposing a state law he would prefer to see it stated in terms of specific subjects that seem to be essential to fit a man for the study of modern medicine, rather than a number of years of time spent in any institution. He advocated study and comparison of results in schools in which work is done in four years, and in which an interne year is required, and emphasized the importance of testing out the results of the different elements appearing in the different schools.

Dr. J. M. Dodd, Ashland. Since the campaign for improving medical education there has been a decided improvement in the material that comes before the board for examination, and there are decided evidences of preliminary education, extremely gratifying to the members of the Board, and demonstrating that it is worth while to keep up the fight for higher standards of medical education; expressed the belief that under the old methods of training young men they have a higher appreciation of the ethical relations, and a better conception of the mission of a doctor.

Dr. L. F. Jermain, Milwaukee, approved of the recommendations of the previous speakers of two years of college work after completion of the four year high school course. This is the standard settled upon by the medical educators of the country and which will be followed by the best schools of the future. If Wisconsin does not enact a law requiring two years of college work it will discriminate against the local schools having such requirements. He did not anticipate much opposition to such requirement if the members would speak to their legislators and convince them of the importance of such for the protection of the public and the schools of Wisconsin.

Dr. Hoyt E. Dearholt, of Milwaukee, read a paper on "Are Physicians Square with Their Tuberculous Patients?" covering the following:

This paper is a report of a careful judicial study of the histories of two hundred State Sanitorium patients with special reference to the individual and sociological attitude of the attending physician to these patients. A scientific case study of physicians is here attempted along lines similar to those followed in a previous paper under the title "The Relation of the Physician to the Public Campaign Against Tuberculosis," presented before the State Society in 1911.

Dr. T. H. Hay, of Stevens Point, opening the discussion, expressed his belief in the honesty of the medical profession in their dealings with patients, and emphasized the importance of treating tuberculosis in its incipiency if good results and perfect cures were to be had. It is a fact that the majority of general practitioners do not have the opportunity of becoming expert in physical examination of the chest, and there is some excuse for a great many of the mistakes made when diagnosis is based on physical examination alone. In many hemorrhagic cases of tuberculosis there are practically no physical signs to be found in the chest. Practically all cases of that nature are due to tuberculosis. Early diagnosis based upon history and not necessarily upon physical signs will secure better results in treatment and more credit to the physician.

Dr. M. R. Wilkinson, Oconomowoc. To diagnose tuberculosis early is oftentimes a difficult matter. In case of doubt it is better to be frank with patient and tell him you do not know whether there is tuberculosis or not. Honesty should be the one guiding star in the work. The same charge can be made against the medical profession on almost every other subject with which it deals. Expressed the hope that if another investigation is made the report will be of a different character. Advocated institutional treatment for tuberculosis, on account of its educational character.

Dr. L. M. Warfield, Milwaukee, characterized the paper as the strongest argument that could possibly be made for advanced requirements in medical education. Too much stress is laid upon the

examination of the sputum. By waiting until the tubercle bacilli is found, valuable time is lost in the treatment of pulmonary tuberculosis. Diagnosis should be made irrespective of the sputum examination, although sputum examination should be made. Diagnosis of incipient pulmonary tuberculosis is one of the most difficult in medicine; nothing should be left undone in making the diagnosis. It is better to err on the safe side and recommend treatment at a sanitarium rather than make a doubtful case one of advanced pulmonary tuberculosis. Any person can be frankly told what the matter is with him.

Dr. J. M. Beffel, Milwaukee. The paper and subsequent discussion emphasized the necessity of more extensive preliminary examination. The profession must follow out the suggestion of Dr. Van de Erve of taking men individually and eliminating those who do not show the ability and qualifications of a physician. Every man coming from a medical school should have a certificate that he has had a certain number of cases in obstetrics, and a certain number of chest examinations in pulmonary tuberculosis, etc., before being allowed to pass the examination and secure a license to practice.

Dr. Gilbert, Madison, attributed in a measure the difference in findings in the examinations to the fact that the patients in many instances were not admitted to the sanitoriums until some time after the first examination, and to the further fact that some physicians examined patients in a very cursory manner. Had seen cases come from sanitoriums as arrested cases, which went from bad to worse, and were a menace to the community. With the duty of making early examinations goes the duty of taking care of people who cannot be reached legally.

Dr. G. J. Kaumheimer, Milwaukee, touched upon the unfortunate mental viewpoint of patients, prompting them to attempt to deceive the doctor as to their condition, and gave it as his experience with tuberculosis patients that they are not square with the doctor, and will either lie about what some other doctor has told them, or will not follow the advice given.

Dr. W. H. Neilson, Milwaukee, corroborated the experience of Dr. Kaumheimer, and stated his belief that when the figures were sifted down a little, the result would be nearer the truth. He expressed the belief that the paper of Dr. Dearholt would do a great deal of good in making physicians more careful in their examination. He stated it as his belief that tuberculosis patients deteriorate mentally as well as physically.

Dr. E. H. Townsend, New Lisbon, expressed his belief in the refinements of physical diagnosis, giving an outline of his routine examination of patients in cases of suspected tuberculosis.

Dr. J. J. McGovern, Milwaukee, expressed the belief that the general practitioner of medicine is competent to make examinations. 80 to 85% of cases of tuberculosis get well without treatment, or with very little treatment. Out of 25 cases coming to a general practitioner, 3 or 4 may have a recurrence and go to another physician, the first physician not having seen them in the meantime, and thus there will be misrepresentation or misunderstanding of the patient when calling on another physician later.

Dr. Dearholt, in closing, stated that he had anticipated many of the objections raised in the discussion; that it was not intended as an indictment of the medical profession; that it was the policy of the organization to tell the general public some plain and disagreeable truths about itself. The study consumed several months, costing several hundred dollars, and simply the high spots had been touched. He expressed the hope that the Society would take the material and appoint properly constituted men to study the data and make such conclusions and deductions from the evidence as their capacity as scientific medical men would qualify them to do.

Dr. Robert Van Valzah, Madison, presented a paper on "Deductions Drawn from the Examination of 5000 Students at the University of Wisconsin," covering the following:

Nature and scope of examinations; lack of accurate clinical data at this period of life; importance of this data from a preventive standpoint. Comparison of methods of examination and classification of defects. Statistical report of individual defects with special mention of the more frequent. Interesting rarer abnormalities. Vaccination; percentage unvaccinated; reasons and remedies suggested. Conclusions.

Dr. A. W. Gray, Milwaukee, opening the discussion, characterized the examination in the University as really school inspection of a peculiar and unusual kind, at a time of life when they were looking back upon the errors and neglect of early years. School inspection in Wisconsin is too young

to be held responsible for defects in young adults in the University. He called attention to the fact that there is a gold mine in this particular field, which is neglected at the present time by the general practitioner. School inspection in the future will undoubtedly be responsible for the prevention of much disease.

Dr. G. W. Barth, Milwaukee. Correction of deformities in a child should begin in the nutritional stage. Dr. Barth exhibited charts showing the curve of various minor and major diseases of children. The sequela of measles are so evident in the examination of children that this disease must be taken out of the classification of minor diseases. Major diseases run pretty nearly alike among school children. The state law with reference to vaccination is being rigidly applied in Milwaukee. Physical malformations in children to some extent due to refusal of physicians and dentists to take necessary steps for their correction, and to the lack of the spread of knowledge among the people as to the effect upon children of these defects. School children should not be allowed to engage in strenuous athletic exercises. Dr. Barth urged those present to work for state health supervision of children.

Dr. F. J. Gaenslen, Milwaukee: Human efficiency is marked in a great measure by the perfection of the body. A great deal depends upon whether or not students are in proper physical condition, as to whether or not they will be able to get the most out of their work. Round shoulders, hollow backs and narrow chests may possibly have some bearing on the work done; also the condition of the feet. It would be interesting to note how far the physical defects present have influenced the general health.

Dr. A. J. Patek, Milwaukee, stated that he had occasionally run across cases of so-called orthostatic albuminuria, which at the time looked very serious because of the presence of large quantities of albumin and casts. These cases differ in history, by reason of lack of cause, from the ordinary cases of nephritis, and the course of the disease is usually satisfactory. Dr. Patek asked the writer of the paper whether he had in his experience encountered such cases, and what analysis he had made of the cases of nephritis mentioned by him.

Dr. Van Valzah in closing stated that he had in the cases of nephritis quoted only statistics of the family history of the patients, who gave a family history of 8% of nephritis; that the statistics on albuminuria in the University and the experience there had been the same as that of Dr. Patek. Most of the cases that showed albumin did not show the presence of casts, and subsequent examinations proved that it was of transitory form. Deformities of the bony skeleton have been tabulated, and in those cases amenable to treatment recommendations have been made to the Department of Physical Training for proper treatment and credit given for the work.

Prof. J. R. Commons, of the University of Wisconsin, read a paper on "Social Insurance and the Medical Profession," in which he covered the probable relation of the medical profession to social insurance, and stated that the profession as a whole, through its recognized official organizations should take the lead and thus help the public to avoid serious mistakes.

At the conclusion of his address Prof. Commons was tendered a rising vote of thanks in appreciation of his interesting address.

Owing to the lateness of the hour a motion was made, seconded and carried to dispense with discussion, and an adjournment taken until 9 A. M., Oct. 8th, 1914.

Morning Session, Oct. 8th, 1914.

Dr. H. E. Wolf, La Crosse, read a paper on "Pneumococcal Infections," covering the following:

General consideration; Prevalence in man and animals; usual forms in each; Importance of focal infections in man other than pulmonary; variation in virulence; Production of immunity in pneumococcal infections and the author's animal experiments. Production of antibodies, antitoxins, agglutinins and opsonins. Phagocytosis—resistance of highly virulent pneumococci to the same crisis—virulence of the crisis. Chemotherapy; serumtherapy; vaccino-therapy.

Dr. Edward Evans, of La Crosse, opening the discussion stated that in spite of the work which has been done scientifically and socially against tuberculosis, the number of infections in childhood have not been lessened. Pneumonia, the most fatal of acute diseases, runs its course uninfluenced by any form of treatment, and the pneumococcus gives not only pneumonia but a host of other diseases as well. One reason for the failure of vaccines is the number of strains of the pneumococcus, and the failure to get the particular strain causing

the infection. It is absurd to use commercial vaccines.

Dr. Franz Pfister, Milwaukee, read a paper on "Infections of the Nose, Throat and Accessory Sinuses—Their importance to the general practitioner," covering the following:

Primary or secondary; Primary may remain localized or be initial local manifestation of a systemic infection; secondary infections; sources of. What appears primary oftentimes of dental origin; Accurate diagnosis and treatment practicable and possible for general practitioner; must know, however, what he is dealing with.

Dr. E. S. Elliot, Fox Lake, opening the discussion, said: No subject is more vital to the general practitioner than infections of the nose and throat. He disagreed with Dr. Pfister's statement that the general practitioner is eminently fitted to treat cases of nose and throat. Focal and local infections in the throat and accessory sinuses will try to get to the organs of their predilection. In tuberculosis they try to locate in the lung; they get into your general blood system and produce rheumatism and allied conditions. The operation to remove the tonsil is as serious as the operation for appendicitis.

Dr. J. Kenney, Thiensville: The most important phase of the management of infections of the upper air passages is prevention. The responsibility of educating the people to the importance of the care of the nose and throat lies with the general practitioner. There is a tendency among uneducated classes to disregard the condition of the nose and throat. Particular attention should be paid to sanitary housing, and general hygienic conditions. Cases of tonsillitis should be isolated.

Dr. G. V. I. Brown, Milwaukee, laid stress on the importance of proper attention to the teeth. A reference of the patient to a dentist is not sufficient; the cases should be followed up. The sources of serious infections are generally those in which the outward evidences have been masked. The subject of infections has made such a rapid advance in brief time that there has been no opportunity for readjustment of the dental practice, and the general practitioner must give the mouth proper treatment.

Dr. W. E. Ground, Superior, gave it as his experience that very few general practitioners recognize septic conditions unless pronounced, and cited instances of cases where apparently healthy tonsils were the cause of the mischief. Recent investigations have connected a parasitic ameba with the causation of pyorrhea, and the claim has been made that hypodermic injection of emetin is almost a specific.

Dr. Williams, Chippewa Falls, expressed the opinion that the general practitioner is able to treat these cases of infection, if he will but spend the time on them. Physicians should impress upon patients the extreme importance of proper treatment of nose and throat, and especially of the teeth.

Dr. Waters, Grand Rapids, expressed the belief that adenoids and enlarged tonsils are a manifestation of rickets, caused by improper feeding of children after the period of lactation, resulting in an overgrowth of adenoid tissues, and a similar condition in other parts of the body.

Dr. W. E. Nicely, of Waukesha, stated that 90% of 500 cases of diabetes seen in the last year have pyorrhea, and the cause was thought to be that they did not use their teeth properly and eat properly.

Dr. Pfister, in closing, stated that the general practitioner will be able to prevent most of these infections. As to enlargement of tonsils and hypertrophy of adenoid tissue, rickets would be the result of the glandular enlargement rather than the primary cause. Irritations of the tonsils and mucous membranes in the upper air tract due to change in the living methods, overheating and dust. Unless there is change in housing conditions there will be an increase in tonsil hypertrophies in proportion to the increase of bad conditions.

The paper of Dr. R. H. Jackson, Madison, on "Cryptogenic and Allied Infections of Surgical Import" was read by Dr. James Jackson, Jr., covering the following:

Resume of infection in general—Present day man especially susceptible—Common methods of production—Illustrative cases—The term cryptogenic obsolete; a cloak of ignorance—Prevention the Shibboleth of medicine and soon to be of surgery—Duty to State Society to disseminate knowledge of prevention—Conclusions.

Dr. Julius Noer, Stoughton, opening the discussion, voiced the opinion that the clinical field is one to turn to to get general results. The results obtained by the Japanese scientists and field surgeons in the Russo-Japanese War in practically excluding infectious and contagious diseases demonstrate what can be done by applying the means at

the command of scientific medicine today. Also the results in Cuba and Panama. Physicians should use the means at hand.

Drs. Daniel Hopkinson and W. G. Darling, Milwaukee, read a paper on "Puerperal and Other Pelvic Infections," covering the following:

Subject so broad have limited paper to puerperal infections. The first part deals with the etiology, bacteriology and pathology, with special reference to the flora of the normal vagina during pregnancy. The pathologic changes involving the uterus and adenexia are considered from the standpoints both of degenerative and regenerative changes. Various etiological factors reviewed. The second part of the paper considers symptoms, diagnosis, prophylaxis and treatment.

Dr. W. C. F. Witte, Milwaukee, opening the discussion stated that a vast amount of the infection in the vaginal tract is the result of the presence normally or abnormally of various pathological bacteria, and that the infection may be caused by a prior infection of a venereal character, or the result of a pathological condition present following an abortion or abnormal labor. The plan of treatment depends on the type of infection and its virulence.

Dr. G. R. Baker, Tomahawk, agreed with the opinions advanced as to the treatment. The invasion of the uterus in puerperal infections is a matter of judgment in the individual case. It is not possible to outline any set rulings.

Dr. J. P. McMahon, Milwaukee, emphasized the importance of prophylaxis. The great majority of those undertaking obstetric practice have not appreciated that it is a surgical procedure, and many do not make their technique square with the knowledge they possess. Obstetrics is one of the most important subjects in the curriculum, and medical faculties must furnish better facilities and more abundant clinical material so that future graduates shall be competent to undertake this work.

Dr. W. G. Darling, in closing, said: The authorities now are divided along very sharp lines on the question of when we should enter the uterus and when not. The trend of opinion is to keep out of the uterus. Recommended careful placental examination after delivery.

Dr. Daniel Hopkinson, in closing, emphasized the fact that it is impossible to determine whether the existing infection is or is not due to the presence of organisms found there unless there is a lesion from which you can get the organism. The finding of an organism in the lochial discharge is no indication that this organism or any organism that you find there is producing a puerperal infection.

Dr. E. C. Rosenow, of the Memorial Institute for Infectious Diseases, Chicago, addressed the Society on "The Vaccine Treatment of Various Infections," covering the following phases:

The principles involved; the importance of accurate bacteriologic diagnosis; the preparation, the limitations and the relative value of the usual autogenous and stock vaccines and allied preparations will be discussed.

At the conclusion of his address, a rising vote of thanks was tendered to Dr. Rosenow.

Dr. Frank Billings, Chicago, delivered the Annual Address in Medicine, on "Focal Infections and Their Relation to Systemic Diseases," which will be found on another page of this number of the Journal.

At the conclusion of his address Dr. Billings was tendered a rising vote of thanks by the Society.

Adjournment to 2 o'clock P. M., same day.

Afternoon Session, Oct. 8, 1914.

Dr. H. F. Derge, Eau Claire, read a paper on "The Pathology of Repair of Fractures of Bone, with Especial Reference to the Pathology of Delayed and Non-Union," covering the following phases:

Limitation of discussion to practical phases of the subject. Normal process of repair in long and flat bones. Factors operating to modify the normal reparative processes, resulting in various pathological results, non-union, contractures, nerve injuries, etc. Value of clear conception of forces and agents operative in healing of fractures in the every day treatment of these fractures.

Dr. F. Gregory Connell, Oshkosh, opening the discussion, said: A familiarity with the microscopic changes in the process of repair of fracture is an essential requirement in one assuming the care of broken bones. At the present time we are justified in preserving the periosteum and treating it with respect in open treatment of fractures and in bony transplants. The latest method of treating non-union is by an autogenous bone graft, as advocated by Murphy and Albee.

Dr. Wilson Cunningham, Platteville, made the point that in his experience he found either delayed union or absence of union in individuals ap-

parently healthy, in the prime of life, strong and robust, where one would expect under ordinary conditions to get a good firm union. It is hard to draw the line between a delayed union and non-union. What first appears as non-union after a certain length of time will found to be a delayed union.

Dr. Joseph Smith, Wausau, read a paper on "Open Treatment of Fractures."

X-ray as a means of accurate diagnosis emphasizes the shortcomings of methods generally employed in treatment. Advantages of open treatment numerous. Danger of compounding simple fractures and addition of operative trauma are factors to be seriously considered. The time for employment of open method, a matter of importance. Method of applying fixation device. Each case must be judged upon its own merits.

Dr. Charles H. Lemon, Milwaukee, read a paper on "General Principles Underlying the Treatment of Fractures," covering the following:

The importance of a careful analysis of all the conditions arising as a guide to treatment. Consideration of the features of the incident to the line of fracture of involving contiguous joints. The question of primary amputation vs. conservation in severe compound fractures. Conformation of joints as an aid to treatment. General principles involved in the treatment of simple fractures which the clinically unreducible.

Dr. C. A. Evans, Milwaukee, read a paper on "Fractures of the Skull," covering the following:

No satisfactory classification; Most skull fractures undiscovered. Least important lesion the fracture itself. Should be looked at from viewpoint of intracranial injury; so becomes a question of intracranial pressure. Cerebro-spinal fluid plays important part. As to treatment intracranial injuries may be divided into localized and unlocalized. Localized directly approached; unlocalized treatment depends on amount of intracranial pressure. Basal drainage operation of choice.

Dr. J. P. Connell, Fond du Lac, opening the discussion, said: Since the advent of the X-ray anatomical knowledge has become more perfect, and it behooves the physicians to make better diagnoses. The findings of the X-ray should be properly interpreted. All possible means should be employed to reduce the fracture before operation. A surgeon perfectly capable of doing abdominal work will sometimes fall down in doing bone surgery. There should be the least possible traumatism in the operation to avoid infection.

Dr. C. J. Coombs, Oshkosh: Manipulation under the guidance of the X-ray will often reduce fractures that are at first apparently non-reducible. Effort should be made to get reduction and retention without operative procedure, which is one of last resort.

Dr. P. F. Rogers, Milwaukee: The biggest thing about the whole subject of fractures of the skull is when to operate and when not to operate for intracranial injuries. The serious thing about head injury is the injury to the contents and the resulting pressure. High blood pressure, due to other causes, may be present before the injury, and may have no bearing whatever upon the existence of the intracranial pressure.

Dr W. E. Fairfield, Green Bay, emphasized the importance of the statement that in fracture of the skull the least important lesion is the fracture. Provided the fracture is open, it is a fortunate accident. The operation of decompression is a very simple one and very easily performed. In open treatment stress has been laid upon the fact that the field should be thoroughly aseptic, but iodine and bichloride should not be used on the surface on which it is intended to place metal in the wound.

Dr. W. C. F. Witte, Milwaukee: Fractures occur more frequently today as a result of the modern way of living and are better understood. The public demands more efficient treatment and shorter periods of disability. Two important advances during recent years should be emphasized, the more general use of the Roentgen Ray in the study, diagnosis, and subsequent treatment of most fractures; and the advantages of treating certain fractures by immediate operation.

Dr. T. W. Nuzum, Janesville: Disastrous results from tight bandaging. Circulation seriously interfered with. Pain an evidence and should be noted. Unfortunate results follow tight bandaging. If pain is severe and long continued the reason should be determined, because either too tightly bandaged or the reduction not perfect.

The Annual Address in Surgery: "Diagnosis of Diseases of the Joints," was delivered by Dr. A. R. Colvin, St. Paul, Minn. This Address was printed in the November Journal.

A rising vote of thanks was tendered to Dr. Colvin at the conclusion of his paper.

Dr. Otho Fiedler, Sheboygan, read a paper on "Colles Fracture," covering the following:

Fractures into and near the wrist joint. Pathology—necessity of skiagram to determine. Diagnosis. Prognosis—as to function, as to deformity, as to term of disability. Treatment—reduction should be under general anesthetic; must reduce impactions; secure exact apposition; retention apparatus; open method.

There was no discussion of this paper.

Dr. William E. Fairfield, Green Bay, read a paper on "Fractures about the Elbow Joint," covering the following:

The importance of recognition of the true nature of fractures in this region; making use of an intimate knowledge of the landmarks of the normal joint. Honest effort to reduce rather than hastily concluding it irreducible. Different forms and their symptoms. X-ray before and after reduction. Necessity for great caution in adopting open treatment Avoidance of criticism of results by others.

There was no discussion of this paper.

Adjournment to 9 A. M., Oct 9, 1914.

Morning Session, Oct. 9th, 1914.

Dr. W. F. Zierath, Sheboygan, read a paper on "Medical Economics," covering the following:

Physicians unjust to themselves and their families. The business side of practice.

Dr. S. B. Ackley, Oconomowoc, opening the discussion, stated: In some localities the doctor is his own worst enemy. Anything along the lines of this new thought that would do away with drug-store prescribing would be a very good thing, as would also the elimination of the sects and isms of today.

Dr. R. U. Cairns, River Falls: The time is coming when it will be useless for the medical profession to fight the movements towards social medicine. The men in school today may see the day when most of the medical practice will be controlled by the State, as in Germany and Austria, and in large degree, in England, today.

In the absence of Hon. A. C. Umbreit, Milwaukee, his paper on "Medical Legislation" was read by Dr. J. Van de Erve, Milwaukee. The paper was published in the November number of the Journal.

Dr. J. P. McMahon, Milwaukee, opening the discussion, requested a discussion of this subject by Drs. Vaughan, Craig, Bardeen, Van de Erve, Jermain and others who had given the matter thought.

Dr. Victor C. Vaughan, President A. M. A., Ann Arbor, Mich. Medical legislation has done a great deal of good. It seems to me it would be a dreadful thing to allow non-licensed people to practice medicine. Minors and mental incompetents must not only be protected, but who is to decide as to whether they are mentally competent or not? Skill, experience and education along one line does not fit a man to express an opinion along other lines. I believe it is perfectly feasible to define the practice of medicine clearly, and that it is done in a large number of practice acts now in force in this country.

Dr. Alex. R. Craig, Secretary A. M. A, Chicago: The English laws controlling the practice of medicine are known as definitive laws, whereas the laws in this country have been largely those termed restrictive laws. If the purpose is simply to define the practice of medicine, there should be another clause prescribing that the legally qualified physicians shall be expected to perform certain duties, and they alone should have authority to sign death certificates, determine the cause of death, the nature of diseases in the community, and whether cases under their care are such as constitute a menace to public health.

Dr. C. R. Bardeen, Madison, expressed the opinion that the law would have been better if conceived by medical men. It is too radical in some respects. He agreed with Dr. Vaughan as to the definition of the practice of medicine, and that it should not be thrown over.

Dr. J. Van de Erve, Milwaukee: There are some very radical statements in the paper with which I think perhaps an overwhelming percentage of those present cannot agree. It is essential to precisely define and limit and circumscribe just what the preliminary education shall be. The high schools and even some of the colleges do not include the absolutely essential scientific subjects. The University of Wisconsin does not regard high school education as preparatory, or the two years of college work and university training as sufficient to enter upon the study of medicine. Two preparatory years have been outlined there.

Dr. L. F. Jermain, Milwaukee, expressed the belief that there was no use in drawing up ideal medical practice acts unless they could be passed. His idea was to improve medical practice step by

step, and that there would be little opposition to an amendment requiring two years of college work. Advocated leaving it to the courts to decide what the practice of medicine is.

Dr. Ralph P. Peairs commented on the practice of nurses giving anesthetics and receiving pay for such service from patients, and suggested that in any new law which is proposed there should be a provision definitely defining the practice of medicine in this respect, and limiting the administration of anesthetics to the medical and dental professions.

President C. S. Sheldon, Madison: An act drawn by the profession would have the approbation and support of the profession. The suggestion as to going ahead slowly is a good one. If the two year provision goes through this year, progress will be made.

Mrs. Katherine L. Van Wyck, Sec'y Associated Charities, Milwaukee, read a paper on "Existing Laws and Needed Legislation in Constructive Care of the Poor and Mentally Irresponsible." This paper was published in the November Journal.

Dean C. R. Bardeen, Madison, read a paper on "The Relations of the State University to the Medical Profession."

Dr. H. E Dearholt, Milwaukee: The extension work at the University was established in recognition of the importance of teaching the public fundamental facts in regard to health and diseases. Dr. Dearholt solicited the coöperation of the medical profession in the work.

Dr. G. E. Seaman, Milwaukee: The development of the clinical department at the University calls for the coöperation of the medical profession. The policy has been announced of the development of a complete course in medicine at the University. Public health work offers an attractive specialty which medical men have been slow to recognize.

Dr. J. Van de Erve, Milwaukee, emphasized the public health work and stated that the time is coming when every town and hamlet in the state will look to its doctors for instruction in public health and sanitation. Physicians should be proficient in public health work.

Dr. Head, Madison, in discussion opposed the establishment of clinical courses at the University. It would cause the whole course to be deteriorated. It is necessary for medical institutions to be located in large centers where there is an abundance of clinical material.

Dr. Victor C. Vaughan, President A. M. A., Ann Arbor, Mich., delivered an address on "Medical Ideals."

Medicine is becoming a social service. The medical profession should take the lead and direct the course of events. The time must come when every citizen will undergo a careful examination once or twice a year. Every home must be open to the sanitary inspector. The medical profession must take the lead in public health work, sanitary provisions, preventive criminology and preventive medicine.

Dr. Vaughan was tendered a rising vote of thanks at the conclusion of his Address.

The President announced the election of officers by the House of Delegates, as follows:

Dr. T. J. Redelings, Marinette, President.

Dr. H. E. Dearholt, Milwaukee, 1st Vice-President.

Dr. Spencer Beebe, Sparta, 2nd Vice-President.

Dr. H. W. Morgenroth, Oshkosh, 3rd Vice-President, and the next place of meeting as Milwaukee, Wis.

The President also announced that the registration this year, 436, was the largest in the history of the Society in any place outside of Milwaukee, and that the present membership was 1740, the largest at the time of any annual meeting.

President Charles S. Sheldon stated that he wished to commend the splendid work of the new secretary during the past year, and to thank the Society for the splendid support given his administration, and expressed his sentiment of gratitude to the Society.

A rising vote of thanks was moved, seconded and unanimously carried to the local membership, and also to the Fraternal Reserve Association for the use of the building and service rendered, and the perfect arrangements.

Dr. T. J. Redelings, President, expressed his appreciation of the honor conferred upon him, stating that he felt his shortcomings and realized the responsibility going with the honor, and that he regarded it as an honor to his section of the state, and promised to give the best and most loyal service within his power.

Dr. Alex. R. Craig, Secretary A. M. A., Chicago, gave a short address on "The Work of the A. M. A.", in which he reviewed the organization and growth of the American Medical Association, the amount and character of the scientific work accom-

plished, giving a brief description of the building, departments and workings of the American Medical Association, and its publications.

Dr. Craig complimented the State Medical Society of Wisconsin upon the very excellent scientific work being done.

At the conclusion of his address a rising vote of thanks was tendered to Dr. Craig.

Adjournment.

CHIPPEWA COUNTY

The Chippewa County Medical Society held its annual meeting and banquet at Chippewa Falls. Papers were read by Drs. F. T. McHugh and C. A. Hayes, both of Chippewa Falls. Dr. McHugh's paper was entitled, The Classification of the Psychoses; that of Dr. Hayes, Eugenics. Both proved to be very interesting and instructive. There were fifteen members present.

Dr. A. J. Kampmeier of Bloomer, Wis., was admitted to membership. The election of officers resulted in the selection of Drs. A. C. Nussle, Chippewa Falls, as President; J. D. McRae, Chippewa Falls, as Vice-President; A. L. Beier, Chippewa Falls, as Secretary-Treasurer. Drs. H. H. Hurd, C. W. Wilkowski and C. N. Abbott were elected Censors.

Our county organization held ten well-attended meetings during the year 1914. Our prospects for 1915 are more favorable than ever. We have drawn membership from Taylor County and it is highly probable that our membership will show an increase.

A. L. Beier, M. D. *Secretary.*

MARINETTE-FLORENCE COUNTY MEDICAL SOCITEY.

The Marinette-Florence County Medical Society concluded the most successful year since its organization with the annual meeting and banquet on Nov. 24 at the Hotel Marinette. Thirty-five physicians from several counties in the northern part of the state attended a business session in the afternoon which was featured by addresses by medical men well known thruout the state and interesting discussions.

Dr. Eugene E. Axtell of Marinette was chosen president of the society to succeed Dr. T. J. Redelings, Dr. Simon Bergland was elected vice-president, and Dr. R. R. Heim secretary and treasurer to succeed himself. Dr. H. R. Adams was elected censor for a three-year term, succeeding Dr. Redelings.

Papers by Dr. F. Gregory Connell of Oshkosh, Dr. Rock Sleyster of Waupun and Dr. Louis M. Warfield of Milwaukee were especially well received at this session. Dr. Connell spoke on "Giant-Cell Sarcoma of Bone," Dr. Warfield on "Cardio-Renal Disease," while Dr. Sleyster discussed "Medical Criminology." Addresses were also given by Dr. A. T. Nadeau and Dr. H. F. Schroeder of Marinette. Discussions of the talks were opened by Drs. W. R. Hicks, E. V. McComb, H. T. Sethney and R. A. Walker of Menominee and Drs. Simon Berglund, and W. J. Boren of Marinette.

Following the session the members of the society and its guests were entertained by Dr. T. J. Redelings, the retiring president, at the annual banquet. Toasts were responded to by Dr. A. H. Vennema of Menominee, Dr. Louis M. Warfield, Dr. M. D. Bird, Dr. Rock Sleyster, Rev. E. C. Postlethwaite and Attorney E. C. Eastman. Dr. Connell was unable to remain for the banquet because of an engagement.

ROCK COUNTY

The monthly meeting of the Rock County Medical Society was held at the city hall, Janesville, on November 25th. Dr. T. W. Nuzum, Janesville, gave a lecture aided by stereopticon views on the grafting of skin on scalp wounds. Dr. Miller of Evansville and Dr. Arthur Helms of Beloit also spoke.

About thirty members attended the meeting.

WAUKESHA COUNTY

The annual meeting of the society occurred Dec. 2nd, at Dr. Hodgson's residence, Waukesha. The result of the election of officers was as follows: President, Dr. F. J. Woodhead, Merton; Vice-President, Dr. W. B. Campbell, Menomonee Falls; Secretary-Treasurer, Dr. S. B. Ackley, Oconomowoc; Censor, Dr. H. T. Barnes, Waukesha; Delegate, Dr. G. E. Peterson, Waukesha; Alternate, Dr. G. E. Love, Waukesha. After the business meeting was over those attending were invited out to the dining room of the beautiful Cassa Flores where a delicious venison dinner was served.

S. B. Ackley, M. D., *Secretary.*

TWIN CITY MEDICAL ASSOCIATION

At the annual meeting of the Twin Cities Medical Association held at Neenah on December 5th, the following officers were elected: President, Dr. S. D. Underwood; vice-president, Dr. E. C. Dollard; secretary-treasurer, Dr. G. M. Williamson.

BOOK REVIEWS

Diseases of the Rectum and Colon and their Surgical Treatment. By Jerome M. Lynch, M. D., Professor of Rectal and Intestinal Surgery, New York Polyclinic; attending Surgeon, Cornell Dispensary; Fellow of the American Proctologic Society, New York Gastro-Enterological Society, etc. Octavo, 583 pages, with 228 engravings and 9 colored plates. Cloth, $5.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

In the preface the author states that this is not a book for the specialist but that it is addressed to the busy practitioner and as such it can not be surpassed. Though the book is of convenient size, it contains all the essential information of the entire subject and dwells more particularly upon all practical points which makes it so valuable to the general practitioner. The chapter on local anesthesia is especially instructive inasmuch as Lynch urgently recommends it in minor surgery but is conservative in its use in the severer cases. In a few words he clearly gives the indications, methods

used, and the limitations of local anesthesia in rectal surgery. In the chapters on fissues, fistulae, cryptitis and papillitis he gives in a clear concise manner the symptomatology, diagnosis and treatment of these frequest diseases which are so annoying to the patient, yet so often overlooked by the physician. The cryptitis and papillitis receive greater attention than is usually given in books of this kind. The author favors the clamp and cautery operation for internal hemorrhoids in the majority of cases but describes other methods which might be advantageously used in selected cases. If the internal piles are prolapsed and not severe they can be removed under local anesthesia.

The article on serums and vaccines sets forth the possibilities of this line of treatment while the chapters on constipation and X-Ray examinations of the intestine add materially to make this one of the most useful and practical books on the market.

DISEASES OF BONES AND JOINTS. By Leonard W. Ely, M. D., Associate Professor of Surgery, Leland Stanford Junior University, San Francisco, Cal. Sextodecimo: 220 pages, 94 illustrations. Surgery Publishing Co., New York. Price, cloth, $2.00.

To review Dr. Ely's book properly would mean to traverse with him the entire domain of the anatomy and physiology of bone and joint structure and the pathology and treatment of their diseases.

Suffice it to say, therefore, that the author has condensed in a convenient volume of 218 pages, well illustrated, the most advanced teaching on subjects on which he is in position to speak with authority based on personal investigation and extensive clinical experience.

The first chapter is a presentation of a simplified and largely original conception of the anatomy, physiology and pathology of the structures under consideration. Then follow chapters on acute arthritis, chronic arthritis (tuberculosis, syphilis, gonorrhea, other metastatic infections,) ankylosis, acute and chronic diseases of shafts and new growths.

The author states that the work is intended primarily for the general practitioner. It may well be taken for granted that the majority of surgeons are familiar with his views and methods through periodical surgical literature; nevertheless, this little volume affords so lucid and comprehensive a presentation both of the author's personal views and of the subject in general, that its study will interest and repay the surgeon as well as the internist, pathologist and general practitioner.

A TEXT-BOOK OF MEDICAL DIAGNOSIS. By James M. Anders, M. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College of Philadelphia and L. Napoleon Boston, M. D., Professor of Physical Diagnosis, Medico-Chirurgical College, Philadelphia. Second edition thoroughly revised. Octavo of 1248 pages, 500 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, $6.00, net; half morocco, $7.50, net.

The first edition of this text-book appeared about three years ago and was favorably received by the book buying public. It represented adequately the then status of the subject. The work of revision has consumed about two years and the present volume evidences the fidelity with which the authors have brought their work up to date. Additions have been made in the newer methods of diagnosis in cardiac and pulmonary diseases and in various bacteriologic and serum tests and reactions.

The subject of blood-pressure which has been attracting so much attention for the past few years has been elaborated and brought up to date.

As a representative of this class of works this book will continue to occupy a high place in the confidence of physicians as a practical guide and aid in diagnosis.

Many of the illustrations are unusual and particularly well conceived.

W. H. W.

A TREATISE ON CLINICAL MEDICINE. By William Hanna Thomson, M. D., LL. D., formerly Professor of Practice of Medicine and of Diseases of the Nervous System in the New York University Medical College; Ex-President of the New York Academy of Medicine, etc. Octavo volume of 667 pages. Philadelphia and London. W. B. Saunders Company, 1914. Cloth, $5.00, half morocco, $6.50.

This being a "Treatise on Clinical Medicine", rather than a text-book of the principles and practice of medicine it is in striking contrast with most of the books on similar subjects which have appeared during the last decade. There is scant consideration of the problems of pathology as well as etiology, as well as a noticeable absence of ultra scientific and laboratory details and discussions. For some years there has been a growing tendency on the part of book writers to minimize the efficacy of drugs, but in this case there is a refreshing exhibition of confidence in therapeutic agents, and the author's long experience has been liberally drawn upon, and is much in evidence, for many rather definite plans of treatment and management in individual diseases. This is notably so in the case of the article on Graves' disease and in many others.

The preliminary chapters on the significance of important symptoms is followed by a consideration of certain remedies, then a section on infectious diseases and the diseases of special tissues and organs.

The index is particularly full and accurate taking up 27 pages. The type is good and easily legible.

This volume will be welcomed by those practitioners and students who especially seek practical bedside aid in the management of disease.

W. H. W.

LOCAL ANESTHESIA: ITS SCIENTIFIC BASIS AND PRACTICAL USE. By Professor Dr. Heinrich Braun, Obermedizinalrat and Director of the Kgl. Hospital at Zwickau, Germany. Translated and edited by Percy Shields, M. D., A. C. S., Cincinnati, Ohio, from the third revised German edition. Octavo, 399 pages, with 215 illustrations in black and colors. Cloth, $4.25, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

This translation into English of Dr. Braun's treatise will be welcomed by many not fortunate enough to be able to use the original German text. To Braun pre-eminently belongs the credit of having brought local anesthesia to its present standard of high perfection and wide applicability. As Dr. George Hirschel, the author of another German work on the same subject, says in the preface to his own book: "Any up-todate comprehensive treatise on local anesthesia must begin with Braun and end with Braun."

The work appears in a convenient volume of 399 pages, of large clear type. The illustrations deserve particular commendation; they are exceptionally well reproduced and afford great assistance in the study of the technic. The translation is true to the original, but has about it none of the awkwardness of expression often encountered in similar efforts.

The treatise is characterized by the usual German thoroughness and exhaustiveness. Beginning with a history of local anesthesia, this is followed by chapters of anatomical and physiological considerations, and finally by detailed descriptions of modern methods as applied to various regions of the body.

Local anesthesia has during the last few years been placed upon a thoroughly scientific basis, and a simple and effective technic developed, thanks largely to the work of German and French surgeons. That it is not more generally employed in this country is due largely to the fact that up to a very recent time no comprehensive literature on the subject was available. It is widely applicable, not only in general surgery, but in practically all specialties, and many of the dangers and discomforts of general anesthesia are eliminated by its use. Study and application of the methods worked out by Dr. Braun will quickly bring conviction of their merits. A thorough perusal of the work cannot be too strongly urged upon all classes of practitioners. The profession of this country owes a debt of gratitude to Dr. Shields for his excellent translation.

H. Reineking.

Progressive Medicine, A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, edited by Hobart Amory Hare, M. D., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital; one time clinical Professor of Diseases of Children in the University of Pennsylvania; member of the Association of American Physicians, etc., Assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadephia; Ophthalmologist to the Frederick Douglas Memorial Hospital; Instructor in Ophthalmology, Philadelphia Polyclinic Hospital and College for Graduates in Medicine. Lea & Febiger, Philadelphia and New York.

Volume 4, December, 1914. Diseases of the Digestive Tract and Allied Organs, the Liver, Pancreas, and Peritoneum, by Edward H. Goodman, M. D., Diseases of the Kidneys, by John Rose Bradford, M. D., F. R. C. P., F. R. S., Genito-Urinary Diseases, by Charles W. Bonney, M. D., Surgery of the Extremities, Shock, Anesthesia, Infections, Fractures and Dislocations, and Tumors, by Joseph C. Bloodgood, M. D., Practical Therapeutic Referendum, by H. R. M. Landis, M. D.

The great value of this publication is that it gives much more than an abstract of the work done in these departments of medicine during the current year; it presents an appraisal by a competent authority of the year's progress and so economizes the reader's time by presenting for his consideration only what is important, supplemented throughout by judicious editorial comment.

Progressive Medicine is the best sort of a perennial post-graduate course and we hope the number of its readers may steadily increase.

ABSTRACTS

Chlamydozoa in Natatorium - Conjunctivitis. Huntemüller and Paderstein, (from the institute for infectious diseases and the eye polyclinic of Dr. Paderstein at Berlin. Deutsche Medizinische Wochenschrift, Jan. 9, 1913, No. 2, p. 63), report a series of 14 cases of acute conjunctivitis of striking resemblance to acute trachoma. The patients had all bathed in the public natatorium. Only the fact, that in short succession 2 attendants of the same swimming bath were affected, aroused the suspicion of a natatorium endemic as described by Schultz and Fuchs. The infectious nature of the disease was proved by its transmission to monkeys. The secretion contained typical cell inclosures very similar to the chlamydozoa found by Halberstaedter and Provazek in trachoma. Further investigations must decide whether this affection is a disease proper or real, although weakened, trachoma. The authors incline to the first assumption.

The natatorium-conjunctivits does not always heal completely, but may leave changes which also occur in trachoma, e. g. ptosis. It must, however, be emphasized, that of the 2 pathognomonic symptoms of trachoma the most important, viz.: cicatrization, was found in no case and the significance of pannus in one patient was doubtful. The water of the natatorium is daily renewed and the tank thoroughly washed with antiform solution once a week, so that it may be supposed that all morbid agents are destroyed. Hence the contagion could only occur through bathing water which has been recently infected.

C. Zimmermann.

On Conjunctivitis Petrificans. Sidler-Huguenin, Dr. Zürich, (Archiv. für Augenheilkunde, 73, p. 167), reports in great detail the clinical history of an hysterical girl, aged 16, otherwise healthy and of good family, who with the greatest cunning in preventing detection inflicted to her eyes artificial conjunctivitis petrificans. She seemed to relish pain by introducing different kinds of lime into the conjunctival sac, grinding them with the lid. by scarifications of the conjunctiva with a needle and contusions of the lids with subsequent sugillations. H. says that if one compares this case clinically, chemically, and anatomo-pathologically with the few typical cases of conjunctivitis petrificans published, (8 in all), one must concede that the not artificial and

the artifically produced conjunctivitis may present identical results. He concludes from his experience that if greater attention will be paid in the future to the most incredible posibilities of an artifact, the typical not artificial conjunctivitis petrificans, in which the white spots of lime, frequently many millimeters large, were renewed from one day to the other, leading to regular crusts of lime within a few hours, may disappear from literature as a clinical picture.

C. Zimmermann.

Further Contributions of the Palliative Operations in Chocked Disc, Transactions of the 37th Congress of the Ophthalmological Society, Heidelberg, 1912, von Hippel, E., Halle, upholds by further observations his former view, that certain bilateral choked disc is an unconditional indication for surgical treatment. The operation must be performed while the functions are fully preserved and not be postponed to the beginning of visual disturbances. v. H. contends that to-day the question for discussion is which is the most expedient surgical method. Lumbar puncture is not indicated in probable tumors, especially of the posterior cranial fossa, on account of inefficiency and danger. He recommends it exclusively if the probability speaks for meningitis, especially serous, but also here more energetic methods are called for, if repeated lumbar punctures do not soon give relief. As before, he considers the decompressive trephining in 2 sittings as the correct procedure in cases which come at the right time. Of greatest importance is that narcosis can be dispensed with.

20 cases are reported, in which puncture of the corpus callosum ("Balkenstich") was performed, with the following conclusions: It has been proven beyond doubt that the "Balkenstich" can cure choked disc without atrophy and with preservation of the functions. In some cases the "Balkenstich" may be more effectual than trephining. It is certain that the "Balkenstich" may be without result, even if the functions are still normal. The view, also held by others, seems theoretically correct, viz., that in intense hydrops of the ventricles the methods of draining, i. e. also the "Balkenstich," are indicated, in enlargement of the solid mass of the brain the trephining. Actual experience, however, leaves here certain doubts. If the condition of the functions do not require immediate maximal decompression, the "Balkenstich," on account of its indisputable advantages, is the operation of choice, as it is capable of giving good information as to the condition of the ventricles. If immediate relief of pressure is urgent, v. H. recommends trephining as of greater effect. If the "Balkenstich" does not give decided improvement at the highest in from 3 to 4 weeks, v. H. absolutely advises trephining. Our experience is still insufficient for formulating distinct indications for both operations.

C. Zimmermann.

Retrobular Neuritis and General Diseases. Langenbeck, K., (from the eye clinic of Prof. W. Uhthoff in the University of Breslau. Von Graefe's Archiv für Ophthalmologie, 87, p. 226), discusses the etiology of retrobulbar neuritis, studied on 176 cases of the clinic and the private practice of Prof, Uhthoff. Multiple sclerosis was found in 58 cases, 33%, suspected in 14, 8%, chonic, idiopathic, respectively hereditary, affection 32, 18%, lues 13, 7%, affections of the posterior nasal sinuses 6, 3.5%, primary and secondary orbital processes 6, 3.5%, sudden loss of blood 5, 3%, menstrual disorders 4, 2.3%, pregnancy 3, 1.7%, lactation 3, 1.7%, diabetes 4, 2.3%, traumatism 4, 2.3%, articular rheumatism 1, 0.6%, cold 1, 0.6%, without detectable etiology 36, 20%, after deducting the 14 cases suspect of multiple sclerosis 22, 12%. The frequency of multiple sclerosis surpasses even the statistics of Fleischer, who found it in 66% of his selected material. In 12% multiple sclerosis existed previously to the visual disturbances, in 20% these were observed simultaneously with the general symptoms, in 45% the affection of the optic nerve was isolated, and mostly healed, while further symptoms of disseminated sclerosis set in much later. If retrobulbar neuritis is not due to ectogeneous intoxication, it is with a probability of from 30 to 40% an early symptom of multiple sclerosis. If it is not an idiopathic or hereditary form, if lues, diabetes, affections of the nasal accessory sinuses, which eventually show an enlargement of the blind spot, and the rare connections with orbital processes, anomalies of menstruation, gravidity, lactation, acute loss of blood, can be excluded, in more than 75% of the cases the probable cause is multiple sclerosis. Characteristic ocular symptoms pointing to an existing or imminent multiple sclerosis are mystagmus, the successive affection of both eyes after a long interval, the relapses, ocular palsies especially under the aspect of associated paralysis, and Uhthoff's sign of aggravation of the visual disturbance after physical exertion. If retrobulbar neuritis is combined with 2 of these symptoms, the early diagnosis of a nervous affection is most probable, which frequently may neurologically become manifest after years.

C. Zimmermann.

On Hypophysis Operations. von Szily, A. (From the eye clinic of Prof. Th. Axenfeld in the University of Freiburg. Klinische Monatsblätter für Augenheilkunde 52, Februar, 1914, p. 202.) The eye symptoms play the most important rôle in affections of the hypophysis, with and without acromegaly, especially temporal hemianopsia. Homonymous hemianopsia, contractions of the visual field and central scotomas are much rarer, but as they may occur, a Roentgen sciagraph ought at least to be made in such cases. The most frequent ophalmoscopic changes are, according to Uhthoff, simple atrophy of the optic nerve 22%, optic neuritis, respectively neuritic atrophy 13%, typical choked disc 13%.

The author discusses the various operations, intracranial and extracranial, especially the paranasal method of Chiari and Kahler, and reports 2 cases of endothelioma of the hypophysis which were successfully operated upon by Kahler. From the experience gathered at Axenfeld's clinic, v. S. formulates the following principles: 1. The progressive impairment of vision and visual field near to the median line or beyond it, in cases of certain diagnosis of tumor of the hypophysis, will be for

S. a strict indication for operation. He will not wait until central vision is lost. 2. As the chief value of the operation rests in the possibility of preserving the sight, (while other symptoms, as headache, trophic disturbances, are less important for the indication), the indication to operation must be determined by the ophthalmologist. 3. Only he is able to control, whether an impairment of vision claimed by the patient before and after operation is real or not. 4. The operation can only be advised by the ophthalmologist, if it is performed by a specially trained and skilful rhinologist or surgeon. C. ZIMMERMANN.

INVESTIGATIONS ON FREQUENCY AND LOCALIZATION OF INCIPIENT OPACITIES OF THE LENS IN 302 PERSONS. OVER 60 YEARS OLD. Barth, Th., (From the eye clinic of Dr. A. Vogt at Aarau. Zeitschrift für Aug., 32, Juli, 1914, p. 81, and Aug., 1914, p. 143), gives a critical review of the extant investigations on the kind and localization of semile cataract, methods of examination, and reports his own researches on the living and on dead bodies, with the following resümé: 1. Clinically in 96% of all persons above 60 opacities of the lens were found. 2. The opacities of incipient cataract do not lie directly under the capsule, but on the surface of the nucleus or in the deeper strata of the cortex. There is always a clear cortical layer between capsule and opacities. If subcapsular opacities are present, then always opacities exist in the deeper cortical strata. 3. If 96% of all persons show opacities of the lens, the conclusion seems near, that semile cataract of moderate degree represents a physiological semile change. 4. Hence follows, that we must not frighten an older patient, with incipient opacities of the lens, with the diagnosis and prognosis of cataract, since in 96% of all persons above 60 opacities of the lens occur, and we are not able to judge, whether the opacities will remain more or less stationary or will progress and finally lead to total cataract. C. ZIMMERMANN.

ON THE CONDITIONS OF THE LUMINOUS APPEARANCE OF THE EYES OF ANIMALS. Lohman, W., (From the eye-clinic of Prof. C. von Hess in the University of München, Archiv. für Aug., 77, p. 395). Conditions for the luminous appearance of the eyes of animals are: the tapetum, the hypermetropia of the animal eye and the direction of the rays of light impinging on the eye, as described by Cumming and Brücke. As the following experiment of L. shows, these conditions are not completely mentioned: In a dark room 1 meter above a dog or cat a candle or electric pocket lamp is held, which illuminates the face of the observer, while the animal is in the shade. If the animal looks at the face of the observer he sees the eyes of the animal shining. If the observer turns his head so that the nose shades one of his eyes, he sees only with his other illuminated eye the luminosity of the eye of the animal. This luminosity ceases at once if the illuminated eye of the observer is shaded by the finger or a stenopeic hole or by the upper orbital margin, after turning his head around the horizontal axis. It suffices to shade the cornea of the observer, in order to stop the luminosity, so that it may be assumed that the reflex image of the cornea of the observer is used as ophthalmoscope. Schauenburg mentions in his booklet on the ophthalmoscope, etc., (Lahr. 1859), the observation of the well known entomologist, Dr. Verlorea, that the reflex image of his cornea sufficed for illuminating the eyes of some insects.

C. ZIMMERMANN.

METASTATIC CARCINOMA OF THE CHORIOID, THE PRIMARY TUMOR BEING LATENT. Arisawa, U., of Osaka, (From the eye clinic of Prof. Th. Axenfeld in the University of Freiburg, Klin. Mon. für Aug. 52, Mai, 1914, p. 695), reports the clinical history and autopsy of a man, aged 72, who had a typical intraocular tumor, but in whom the most careful examination of the interior organs showed no anomaly, so that it was diagnosed as primary sarcoma of the chorioid. The microscopic examination of the enucleated eye ball, however, revealed a carcinoma of the chorioid, undoubtedly metastatic.

Not until a year after the commencement of the visual disturbance diarrhoea, loss of weight, and general weakness set in, and the patient died after two months. The postmortem examination showed a primary medullary, exulcerated, carcinoma of the rectum and small metastatic tumors in the liver. The metastasis took place through the posterior ciliary arteries, as in most other cases. With this corresponded the situation of the tumor at the region of the macula and the intense development of the stroma of connective tissue in connection with the place of entrance of these arteries. Histologically the tumor showed great similarity to the metastatic focus in the liver, viz., the structure of a scirrhus. Both metastases developed from the primary adenoid cylinder-celled carcinoma of the rectum of very deviating structure. This histological difference between the intraocular tumor and the primary carcinoma of the rectum is not unusual in metastases. C. ZIMMERMANN.

BRAIN AND EYE. Bing, Robert, Basel. 95 pp. with 50, partly colored, illustrations. Wiesbaden, J. F. Bergmann, 1914. 5 M., $1.25. In this expansion of lectures, held before the postgraduate course of the society of Rhenish-Westphalian Ophthalmologists, the author gives a very clear, concise and still exhaustive, exposition of our present knowledge of the relations between brain and eye. First the anatomy, physiology and physio-pathology of the ocular motility and the pupillary reactions are discussed, then the anatomy, followed by a synopsis of the diseases of the brain in which ocular symptoms are encountered. Here special consideration is given to choked disc and the complex of symptoms of intracranial pressure and to the syphilogenous diseases of the brain and its membranes. We highly recommend the splendid essay which will be very welcome to every ophthalmologist and to every physician who is interested in this most important borderland between neurology and ophthalmology. Paper and print are of superior quality, and the numerous illustrations aid the understanding very materially. C. ZIMMERMANN.

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ORIGINAL ARTICLES

MEDICAL IDEALS.*

BY VICTOR C. VAUGHAN, M. D.,

PRESIDENT AMERICAN MEDICAL ASSOCIATION,

ANN ARBOR, MICH.

Mr. President, Ladies and Gentlemen: That medicine is fast becoming a social service no one can deny. It is coming to us whether we want it or not. It behooves the medical profession of the United States to take the lead in this matter and direct the course of events, and not be driven, as they have been, in Germany and in England.

It is up to the medical profession of this country to do a patriotic service which has never come to any class of men in any country at any time. Every one of you who treats a case of an infectious disease, does the best he can by that individual, but he renders a higher, a broader, a greater service to the community, in preventing the spread of that disease.

It is only within recent years that the public has begun to realize that great service which medical men are rendering to the public, without any reward.

Along in 1880, (and I choose that date because the census of 1879 and 1880 is the first reliable census issued by the United States) the death rate from scarlet fever in this country was fifty-four per one hundred thousand; that is, out of every one hundred thousand people, fifty-four died every year from scarlet fever.

About 1880 the medical profession began to realize that scarlet fever was an infectious disease, and at the same time the public became convinced of it. Scarlet fever is a disease which for the most part is easily recognized even by the laity. Isolation and disinfection began to be practiced. Today the death rate from scarlet fever in the United States is one-ninth of what it was in 1880. There is no other infectious disease which we have come so near absolutely obliterating as scarlet fever. And why? Because of the co-operation between the public and the medical profession. Now the anxious mother, when she sees the first suspicion of scarlet fever, isolates the child and sends for the doctor. So that scarlet fever has lost much of its horror. And today both whooping cough and measles kill more children in the United States and in Wisconsin than scarlet fever.

Then we recognized that diphtheria was an infectious and a contagious disease. Still isolation and disinfection did practically nothing to diminish diphtheria. It was not until the discovery of diphtheria antitoxin that we began to reduce the mortality from that disease.

In 1880 we were still discussing whether tuberculosis was an infectious disease or not, and there were very few who had the hardihood to claim that it was. At that time most of the medical profession believed that tuberculosis was an incurable disease. And why did they so believe? Because no man could say, this is a case of tuberculosis, until there would be continuous fever, marked wasting away, and abundant expectoration; and everybody who reached that stage of the disease died; and the majority of the doctors said that tuberculosis is an incurable disease. Then came Koch, with his discovery of the tubercle bacillus. Then the diagnosis of tuberculosis had to wait the finding of the tubercle bacillus in the sputum. Again it was too late. And still many of us believed that tuberculosis was an incurable disease. Now, with our refined methods of early diagnosis, we know that there is no other grave disease so easily curable as tuberculosis. The death rate from tuberculosis in this country has been reduced 54 per cent since 1880, and the greater part of that reduction has come within the last ten years.

Hoffmann, whose statistics are never questioned, says that if the death rate from tuberculosis in 1901 had continued through the following ten years, there would have been two hundred thous-

*Address delivered before the State Medical Society of Wisconsin at its 68th Annual Meeting, Oshkosh, Oct. 9, 1914.

and more deaths from this one disease in that decennium than did take place. In other words, by the slight superficial means that we have already resorted to, the death rate from tuberculosis has been reduced, so that on an average we are saving twenty thousand lives a year. A battle in which twenty thousand soldiers are slain, stirs the world at the time, and fills the pages of history in the future. There is no indication that in any one day's battle in the present war the slain have numbered anything like twenty thousand. Preventive medicine measures its victories not by the number of slain but by the number saved, and twenty thousand in one year from one disease alone is no small victory. I might go on in this line. This is what preventive medicine has done in the last 30 years. The average life in 1880 was 35 years; the average life in the United States today is 50 years. The man of 50 years today is younger than his father was at 35. And if the people of the United States were to put into effective practice what the medical profession of this country knows, the average life within the next twenty years would be 65 years. Think of that! On account of the ignorance of the masses of the people the average life among the one hundred millions of people living in this generation will be 15 years less than it should be, and the aggregate of life in this generation will be one billion five hundred million years less than it might be.

Since 1880 the death rate has been reduced from 20 to 14. And still, the death rate on the Panama canal, once the most pestilential region on earth, and with the great increase in the number of inhabitants, is but 7, while in Wisconsin it is 14. The death rate all over this country could be easily reduced to ten within a few years if we were to do what we know how to do.

There is no doubt, I take it, among sanitatians, as to what we ought to do.

Two years ago there was introduced into the legislatures of more than a dozen states practically the same bill, with modifications according to local issues, providing for a full time health officer in every city of eighteen thousand or more, and in every county of thirty thousand or more outside of the cities. The bill provided that this health officer should give all of his time to his work. And not only that, it also provided that he should have a laboratory, properly equipped, for making all diagnoses, not only of ordinary diseases, but the Binet test to determine the mentality of individuals, blood tests in forensic cases, and everything of that kind.

This law, in a somewhat modified form, passed in two states, North Carolina and New York.

The state of New York, (exclusive of the city of New York) has been divided into twenty districts, and each district is now being organized, with its full time health officer. This health officer is to have any number of health inspectors, most of whom must, from the very nature of the case, be women. Every house in the land is to be open to the sanitary inspector. Where she is not needed she will learn much, where she is needed she will be the most potent factor in the uplift of the race that the world has ever known.

There are homes all around about us, and you know it and I know it, where it is just as impossible for the children of those homes to grow into healthy citizens as it is for oranges to grow at the North Pole. There are such homes here in Oshkosh, and in the large cities, and in the small cities, and everywhere in this country.

We have a little town of some 20,000 inhabitants, and two years ago in the shadow of one of the university buildings we found the home of a mother and two daughters, the elder 16, and all three prostitutes. In one of the public schools we found a bad habit in vogue, and following the boy and girl from a certain family, the mother boasted that she taught the children the habit.

These things are going on about us all the time. We are breeding not only disease, but crime. And what is the result? Every time the clock strikes the hour, day and night, season in and season out, year in and year out, a murder is committed in this fair land of ours. There is no section of the globe, civilized or uncivilized where crime and lawlessness prevail as they do among us today.

I am not a pessimist, and I hope before I get through you will see that I am not; but we are trying to make a diagnosis, and perhaps a cure, and before we can make a diagnosis or suggest a cure we must know the nature and the extent of the involvement.

Judge Wier, of New York City, says that there are at least two hundred and fifty thousand people in the United States whose business is crime. They do nothing else. And he states that the number of murders committed in the United States per

million of inhabitants is twice what it was twenty years ago.

Ex-President Taft says that there is no country in the world where crime is so rampant as it is in the United States, and that this is due to the mal-administration, or the lack of administration of the criminal law.

Out of every one hundred murders committed in the United States (and I am giving you statistics upon this) only two are ever punished. Ninety-eight per cent. go Scott-free.

Mal-administration of the law undoubtedly has much to do with this condition. The law must be radically changed.

As a toxicologist, I have had a large experience in murder cases in nearly every section of the United States, and I want to say that no rascal fears the jury system, and no honest man respects it. It is an absolute failure so far as the trial of criminal cases is concerned.

The logical conclusion must be, and there is only one thing, so far as I can see, that we must come to: the time must come when every citizen, good and bad, rich and poor, will undergo a careful examination once or twice a year. Now that is horrible, isn't it? That is socialism of the rankest and worst kind, isn't it?

I was down in Kentucky a few days ago talking to the State Medical Society down there, and the secretary of the State Medical Society tells me that in the last few months they have examined, in a routine way, three hundred thousand people, taking them as they came, for hook worm disease. Of course they have gone principally among the working classes. One hundred thousand of these were found to have hook worm; and one hundred and fifty thousand had some kind of an intestinal parasite.

The earning capacity of these three hundred thousand people who have been examined and treated in this way has been multiplied by three. One of the largest coal miners in Kentucky has said that today, after the men employed by him had been treated, that with the same men, the same machinery, digging in the same mine, he was putting on the cars each day three times as many tons of coal as he had put on before.

I think it was Benjamin Franklin who said that it is just as hard for a poor man to be honest as it is for an empty bag to stand upright.

Don't you think that the multiplication by three, of the earning capacity of a hundred thousand people, is going to do something towards diminishing crime?

Some years ago I went before the Senate of the University of Michigan, composed of all the professors in the University, and made this proposition: that every male student taking work in the gymnasium should undergo a careful examination, not an examination to determine whether or not he could run, or whether or not he could play on the football team, but a careful examination; and that any student found with a venereal disease should be excluded from the gymnasium. That was about 8 or 10 years ago. Why, horrors! These were professors of law, and history and botany, classical professors. Why, their hair fairly stood up on their heads. Venereal diseases! Such a proposition as that! Why, it would get out that we had passed such a resolution, and it would be admitting that our stndents had venereal disease. Honestly, I had to change the word "venereal" in order to get that resolution through. I changed it to "contagious or infectious" disease.

At that time, with about four thousand young men in the University of Michigan, there were from six hundred to eight hundred cases of gonorrhea, and from one hundred and fifty to two hundred cases of syphilis every year. I know that just as well as I know anything. I went to every doctor in the town, at the end of the year, and I found out how many cases he was treating. But now we examine every student. We treat a man with venereal disease just as we would treat him if he had smallpox. We do not read him any moral lesson. We put him in the detention hospital, in the pest house, and lock him up there until he is well. That is the way to do it. And last year, with more than five thousand male students in the University of Michigan, there were thirty-seven cases of venereal disease. Now is that worth doing or not? Thirty-seven cases—and only twenty of these were contracted while there; all the others came there. Now is that worth doing?

I went to the Board of Regents some years ago, and said that every student entering the University ought to have a thorough physical examination, absolutely a thorough examination, just as though you were examined for life insurance. Why, they said, that would cost outrageously. But, after discussing the matter, we compromised. I have always had a special liking for the girls, and I said,

"I will see that the girls are examined; I will have it done at my own expense; it will cost you nothing." Every girl entering the University of Michigan during the last years has undergone a thorough physical examination. Ten per cent. of the girls who have entered the University of Michigan have entered with initial tuberculosis. Only two of those have been cases of open tuberculosis, and they had to leave. No one of the cases of closed tuberculosis has been compelled to leave, and of those who were detected 5 or 6 years ago, all are practically well, simply by regulating the conditions under which they live.

The first year that this was done I had a number of letters from mothers, one that I have especially prized, about 14 or 15 pages of most vigorous English, telling me she sent her daughter to the University of Michigan to get an education, and not to be examined for tuberculosis. She later realized herself that the girl had tuberculosis. The girl passed a rather harrowing experience, but is now well. That woman is one of the most earnest workers in the Anti-tuberculosis Society.

Do I need to mention more illustrations than these?

There are in Michigan today (and I suppose there are just as many in Wisconsin) so far as we can estimate, nine thousand potential criminals at large. Potential criminals, people who would not be responsible if they were to commit murder tomorrow, feebleminded, alcoholic wrecks, dipsomaniacs, etc. And what are we doing with them? They are running loose. And you cannot pick up a daily paper but you see where some one of this class has done some murder. These are the men that strike down little girls, that shoot men and women on the slightest provocation.

According to law, you cannot touch any one of these individuals until some crime is committed. A man is brought to our psychopathic hospital. We cannot keep him there, even if he is willing. Some member of the family will object to it. We cannot keep him in the psychopathic hospital until he has killed somebody, or stolen something, or done something that is a violation of law.

All of this must be changed.

Every home must be open to the sanitary inspector. Every person must be examined. Can any honest person object to this? Certainly not. The health officer in Kentucky told me a very interesting thing along this line. He stated that there was one influential woman down in one of the cities of Kentucky, who was especially interested in the examination of the working people, for the hook worm, and urged them to have it done. She brought a lot of the negroes from her plantation, and insisted that they should undergo the examination. They objected. They were ignorant; they were superstitious, they thought there was something wrong somewhere, someone was trying to put something over them. And so she said to the doctor "examine me," and her bowel discharges were examined, and she was found not only to have hook worm, but tape worm also.

No honest person can object to this examination. The people who are sick will be benefited.

Let us practice preventive criminology. I would not want to say today absolutely and outright that crime and disease are synonymous. I should have no hesitancy in saying that every criminal is abnormal in some part of his physical being; that all criminality has a physiological basis; and, as Decartes said more than two hundred years ago: "If the world is ever to be regenerated, if the better man is ever to come into existence, it must be through preventive medicine."

Now I appeal to the doctors of Wisconsin to take the lead in all these matters. There never has been a time when so much intelligent help has been offered us from outside of our own profession. I am sorry to say, but I think you will all agree with me, that there are many members of our own profession who have not been diligent in this work. Take the anti-tuberculosis crusade. Only the more intelligent members of the medical profession have engaged in the work; only the more intelligent part of the community has responded.

When I say that we have gotten rid of 54% of the tuberculosis in the last thirty years, please do not understand me to say that we are going to get rid of the other 46% of it in the next thirty years. No, indeed, It is going to be a different, and a far more difficult, task. Up to the present time only the more intelligent members of the profession have moved in this matter, and only the more intelligent part of the laity have responded, and in this movement we must go to the people who will not come to us. We must go into the homes where we will find poverty, disease and crime. And let us, as physicians, take the lead in this matter; let us direct this great work; let us strive for the coming of the better man.

It seems to me that a special duty devolves upon the people of the United States today, the only great nation in the world not at war. From now on the burdens of civilization and its blessings must rest upon and go with us. We cannot carry these burdens; we cannot reap these blessings unless we wipe out disease and crime from among us. And the rational agent to do this is the medical profession. (Great applause.)

SOCIAL INSURANCE AND THE MEDICAL PROFESSION.*

BY PROF. JOHN R. COMMONS,

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MADISON.

Recently I visited a large mining camp in the Northwest. Around the camp has grown up a city of four or five thousand people, dependent upon the mines, and isolated by hundreds of miles from other towns. The company, in its isolation, is more than a mining company. It is a government. It controls the local politics and elects the city officials. It has its own private police in addition to its control of the city police. Through its control of the banks and its ownership of the company store it controls every business man of the town. It puts them out of business if it so desires, and it drives every agitator out of town. It controls the water supply, the prices of food and clothing for the people.

It is also a patriarchal government. It furnishes free a large building for recreation and entertainment and a circulating library. More interesting than all is its control of the medical profession. It operates a hospital and furnishes medical and surgical attendance free of charge, to all of its employees and to their families. Its staff of physicians and surgeons, seven in number, is recruited from the best medical colleges of the country. The chief physician receives a salary of $6,000, and the others receive lesser salaries, down to the young physicians who have just been graduated from the colleges. Each physician is required to spend a month or so each year at a high-grade clinic in the East or in Europe. The six or seven nurses are similarly trained and experienced. Physicians and nurses attend patients at their homes as well as at the hospital. There are only two or three private physicians in the town, whose practice is almost solely with people not connected with the company, and whose work is specialized in directions which the company physicians do not handle extensively.

There is a remarkable *esprit de corps* among the physicians and nurses of this company. They look upon themselves as a profession selected to safeguard and protect that greatest asset of any corporation and any community—the health and strength of the working population and their families. They have none of the petty embarrassments of waiting for patients to come, of making out bills and "dunning" patients for debts, of charging wealthy patients all that their pocketbooks will bear in order to furnish free service to the poor and to offset the bills of others that cannot be collected. They have none of the petty professional jealousies which occasionally set the private practitioners of a town on ears against each other in their competition for practice. They know exactly where each one is coming out, for they have each a salary, each a chance of promotion, each all of the practice that he can attend to. Each one has all of the appliances and equipment that keep him abreast with the up-to-date progress of his science. In fact, theirs is a high scientific and humanitarian employment, unmixed with any mercenary struggle for business, unembarrassed by any crude and wicked suspicion of keeping people sick for the sake of their money, undisturbed by any invidious criticism of neglecting the poor because they cannot pay, untempted by any inducement to hold aloof from a popular movement like anti-tuberculosis because it might deprive them of practice. Their entire income and all of their expenses are simply a charge upon the profits of the industry and not primarily a charge upon the working people who make the profits possible. In truth, no investment of the company is probably more profitable than its investment in these high-grade physicians and nurses, for they are the means of keeping in repair the most valuable machinery of the company—its human workers.

I also visited a communistic settlement of German Quakers in Iowa. Two or three thousand farmers and factory workers own in common the lands and buildings of an entire township. They elect their board of directors to manage the industries, and they elect all of the township officers

*Read at the 68th Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 7, 1914.

and constables to manage the government. Everybody gets all of his food, clothing and supplies from the big country department stores owned in common—as much as he needs without charge. Everybody has his work to do, but his products go into the common store to be distributed to all the others. There is but one learned profession, that of the physician. There are no ministers of the gospel, because, according to their practice, everyone has direct access to God and speaks as the spirit moves him without need of a middleman. There are no lawyers, because all disputes are settled in prayer meeting. Everybody is a worker. They can do without ministers, lawyers, professors and business men because there is no monopoly of religion, law, learning, or business. But they can not do without doctors. The only dressed-up men that I saw were the physicians. Four or five doctors suffice for 2500 communists. Their doctors are the only persons whom they send outside the community for an education. The common schools are enough for all the others. The young apprentice doctors are sent to the best colleges and hospitals of the country. Each older doctor takes his turn of a whole year at Bellevue or elsewhere for study and clinics. All of them are abundantly equipped with medical and surgical appliances, with horses and autos, at the expense of the community. They, too, have the finest spirit of professional satisfaction. They are the select ones of the community, whose services are held in the highest honor as that indispensable profession upon which the life and happiness of the community rests. They get no salaries—they get their living and every expense necessary to reach the highest efficiency in their humanitarian profession.

Here I have given two pictures of the possible ideal society of the future. Whichever we take, the medical profession stands out as the one profession which society more and more exalts when all other professions are dissipated. Whether we are moving towards this plutocratic ideal of a future benevolent oligarchy, governing the ignorant masses without their consent, or toward this socialistic ideal of the triumphant masses in control of industry, the physician will have the chief place of scientific and professional importance. This is simply owing to the basic fact that, after all has been done through our marvellous development of science in machinery, in agriculture, in transportation, in engineering, there remains the science of the human being whose personal welfare and efficiency are both the sole object of all sciences and the sole means of utilizing them to their highest efficiency. Whether the final result shall be government by capitalists or government by socialists, the profession of medicine would be the first charge on industry. The profession would be recognized as a public utility, organized, operated and paid by government, like the post office. Its services would be extended to every individual regardless of locality or ability to pay.

But modern industrial nations cannot wait for either plutocracy or socialism to work out its perfect scheme. The burden of disease, invalidism and accident is already too great. Furthermore, the science of medicine has already been so marvellously advanced that it can deal with causes and prevention instead of merely waiting to cure the effects. Even where prevention is not possible, early diagnosis and prompt attention can do the next best thing—reduce the amount of time lost by the individual through disease or accident, and thus restore him promptly to the position of a healthful, efficient worker.

Two things are needed. Such an organization of the medical profession that physicians will get paid for early diagnosis and prevention, and such a pressure on employers and the public that they will be willing to make these payments in advance. Take the workmen's compensation law of Wisconsin and other States. At first many employers opposed such laws. They were familiar only with the fact that they had been paying insurance companies a certain amount of premiums each year to protect themselves against suits at law on account of the small number of accidents to their employees for which they as employers were responsible. Now they were to be compelled to pay, not only for those accidents for which they were liable, but for all accidents, even if the injured employee himself, or another employee or the hazard of the industry, and not the employer, were responsible. They were to be compelled to pay liberally also for medical, surgical and hospital treatment, and to pay each employee in proportion to the amount of time lost from work by reason of the accident. The insurence companies also made the same blunder and fostered the same dread in the mind of employers, for they immediately raised their premiums to three, four and even ten times the amounts they had previously been charging.

What they overlooked was the immense possibilities of accident prevention, and the immense possibilities of speedy recovery through scientific medicine. They looked at the law from the standpoint of insurance and compensation, and not from the standpoint of prevention. Their opposition and misunderstanding went so far in one state—the State of Washington—that they succeeded in keeping payments for medical, surgical and hospital care out of the law, and succeeded in creating a compulsory state insurance fund in order to furnish, as they thought, cheaper insurance than the private companies could furnish. But in Wisconsin and most States, insurance and compensation are secondary. No workingman can ever be fully compensated even for the slightest accident. The law in these States should not be spoken of as "insurance" or "compensation." It is much better described as a kind of social pressure brought to bear upon all employers in order to make them devote as much attention to the prevention of accidents and to the speedy recovery from accidents as they do to the manufacture and sale of their products. As a result of the law, employers have begun to make their safety department and their medical and surgical department as important a thing as any other department of their business, and the reduction of accidents and the speedy recoveries have been so astounding that compensation costs them scarcely more than did the old liability law.

Even if it does cost more, every employer knows that his competitors are compelled to pay the same as he does. He can beat his competitors now, not by shifting the loss and expense of accident upon his workmen, but by reducing the loss. The employer can do this far better than the workman. Employers in this State have paid as high as $300 or $400 for a first-class surgical operation which restored the workman promptly to his job, whereas if it had been left to the workman he could not have afforded the expense and would have been crippled for life. But the employer saved money by doing it. Permanent incapacity might have cost him $2,000 or $3,000 by way of compensation. But first-class surgical and hospital treatment, at a cost of $300, brought him an enormous profit on the investment. What the compensation law does is to set up a certain money value upon the time lost by the workingman through accident. The employer can keep that value for himself by good business management of his accident and medical department. He can lose it by careless management. This is not merely social insurance—it is social pressure on the employer in terms of money.

The employer, also, can manage the work of accident prevention and medical and hospital treatment better than the state or federal governments. Our various state governments have had many years of factory and health inspection by state officials. They have had stringent laws with vigorous penalties. These officials have come upon the employer's premises with all the police power of the State, followed by criminal prosecutions. But what can we say as to their efficiency, measured in terms of the prevention of accidents and the improvement of health of employees? Practically we can only say, taking the country as a whole, that the increasing hazards, the increasing speed and the increasing unhealthfulness of modern industry have kept ahead of the increasing numbers of factory and health inspectors. To say nothing of the great bulk of inspectors appointed for political, personal or religious reasons, even those appointed in a small number of states by civil service examinations have not been competent to deal with the employer on his own ground and in his own factory and to compel him to obey the law in the only way that obedience is worth while, namely, reduction of accidents and improvement of health. And then, even if the inspection is drastic or threatens to be efficient, the great expense and the political influence of employers have prevented the legislatures from making appropriations adequate to pay decent salaries or to employ a large enough number of inspectors. The reason lies in the fact that the employer is hostile to the law. He is treated as a criminal. He is prosecuted for misdemeanor. Not until the compensation laws came into effect did the employers as a whole, become friendly to the safety laws. It now is a money-making proposition for them to go much further than the laws ever required. The State, through its inspectors, can never be as effective as the more advanced employers. All that the state officials can do is to bring the backward employers up as near to the level of the advanced employers as possible. And it never can accomplish even this until it has previously enacted and enforced compensation laws that bear down on every employer, and, with a firm but automatic

pressure, induce him voluntarily to organize his safety and health departments for the sake of the cold profit there is in it. For this reason we should not look forward to the socialistic ideal of making the medical profession a branch of government organized and supported out of taxes. The profession will be far more efficient when joined up with private employers and when its members are employed by them in the safety and health departments of private business, and are thereby aiding employers to make a profit by saving the health of their employees.

In Chicago, some years ago, was founded the Tuberculosis Institute. It was the work mainly of public spirited physicians. While its work included the care of both incipient and advanced cases of tuberculosis, yet the conviction grew that if the great White Plague was to be checked and its causes removed, the Institute must get hold of the individuals by early diagnosis at the sources of disease. The Institute had no law to help it, but by going to some of the largest employers it persuaded them to permit a system of medical inspection of all employees. This medical inspection soon went far beyond the field of tuberculosis. It became, in fact, a diagnosis of all the diseases and infirmities that spring from occupation or other causes. The Institute secured the co-operation of foremen and nurses, and taught them some of the early symptoms to be looked for. When an employee was found in the incipient stages, the Institute arranged with the employer, if possible, for a leave of absence on pay and for rest and treatment in a sanatorium. After the employee recovered, he was taken back to work. In this way the Institute has developed most of the methods and the machinery of organization necessary to take care at their very incipiency of many of the ills and sicknesses of workingmen.

But there remains one thing lacking. Only a few employers or corporations are big and broad enough to take up this great work of sickness prevention. The Institute must petition them and beg them, and show them its humanitarian value. The thing lacking is sickness insurance and sickness compensation. If all of the employers in Chicago were required by law to compensate each employee in proportion to the number of days lost through sickness, then the Institute would no longer be compelled to petition them—they would petition the Institute to come and help them. They would go outside the municipal government and create the best possible staff of physicians and nurses, with hospitals and sanatoria. They would act on the physician's advice about the fumes and dusts, the dampness and cold, the heat and ventilation, that cause disease. They would reduce the excessive speed at which many of them have forced their employees to work by their systems of piece work and false scientific management. They would reduce the hours of labor to the point where scientific medicine draws the line of fatigue and predisposition to disease. This is the next great step in preventive medicine which will seem natural and necessary to all of us when once the amazingly happy results of the laws on accident compensation become familiar to all. Many employers will object, but the more advanced ones will welcome it, and then sickness and invalidity compensation will take its place as the needed supplement to accident compensation.

It does not follow that employers should pay, in the first instance, all of the expenses of sickness and invalidity insurance, as they do in the case of accidents. Accidents originate on the employer's premises. Sickness has many sources. Furthermore, sickness causes a greater amount of lost time than accidents. Employees must also be induced to carry their share of responsibility and expense. Without stopping to work out the actuarial details or the just distribution of expense, I will only mention the fact that already there are thousands of working and middle-class people enrolled in sickness insurance societies. Rubinow, in his valuable book on Social Insurance, estimates some three million people in American trade unions, benefit societies, fraternal orders and casualty companies, expending something over $17,000,000 yearly on account of insurance against temporary disability. This is doubtless an underestimate, for there has been no comprehensive investigation of the subject. These societies are often badly managed, with a high expense ratio, and, worst of all, with very cheap and inefficient medical supervision. The most difficult and important problem of sickness and invalidity insurance is how to build upon this foundation to increase the number of these mutual and private societies and to incorporate them in a universal plan. This has been done in foreign countries and can be done here. No plan of sickness insurance can be seriously considered which does not bring such societies into co-opera-

tion with employers for the joint management and joint expense of the undertaking.

From these examples, we may suggest the future position that the medical profession will probably hold respecting social insurance. The profession will not become a branch of government, although a small fraction of its membership will be required in state and government service as experts. It will remain a profession of private practitioners, but its work will be directed more generally to prevention, early diagnosis and care of incipients. This will be accomplished by pressure upon employers which makes them liable for time lost by their employees through sickness, and by providing for mutual associations and fraternal orders to assist employers. These joint associations through state supervision will devote almost the largest share of their expenditure to the employment of physicians.

It remains to enquire how the medical fraternity will prepare for this public work. Will they hold back and wait for it to come upon them, as they did in certain European countries, and then be compelled to organize and even threaten to strike? I cannot learn that any of the Wisconsin medical societies were consulted when the legislature enacted the recent eugenic law of this state. After it was enacted they found themselves in the position of rebels. Here was intended a most important measure of preventive medicine and social insurance. Surely the State Medical Society should be ably represented in preparing such a measure. So it is with all future measures of social insurance. Medical societies should take the lead in this investigation, in preparing plans that will be effective, and, above all, that will preserve to the profession the high position of scientific direction and proper compensation for their services, that are essential in any effective plan. There need be no fear that the public will take affront or resent this assertion on the part of the profession. What the public needs most of all is to be shown the importance of that highly expert and scientific work of the physician which is required in prevention and early diagnosis. Here is where many mutual societies have broken down, because they let out their contracts to the cheapest doctors by competitive bidding. Let the organized medical profession co-operate with every agency that is working for prevention. They might perhaps in an organized way begin to instruct the public on the value of regular medical examination and thus get their patrons into the habit of calling upon them for early diagnosis instead of waiting for disability. They should certainly pay attention to the subject of occupation disease. A law on the statute books of Wisconsin calls upon every physician to report such diseases, but it is a curious fact that an astonishing number of physicians scarcely know what is meant by the term, and they have apparently never been taught to connect up any disease with any occupation. This is the very essence of preventive medicine and social insurance—knowledge of the human body and its ailments, not merely as an individual matter, but as a relationship between the individual and his work.

Already various organizations have begun the study of sickness insurance, and even the preparation of bills for introduction in legislatures and Congress. The American Association for Labor Legislation has a committee of leading experts of the country at work on the subject and has held national conferences. The United States Commission on Industrial Relations is considering the subject. The United States Public Health Service is now creating a staff of physicians to deal with industrial and occupational diseases. The state legislature of Wisconsin has instructed the state Industrial Commission to begin investigation. In view of these and other beginnings the organized medical profession should have its committees of the best men in its ranks to work with these organizations, and to bring before the profession at large for discussion all of the proposals that are being made for the various kinds of social insurance.

If the physicians, in this organized way, take up the matter of social insurance, they can help the public to avoid serious mistakes. Working people are already beginning to criticize the accident compensation law on the ground that the amounts paid by employers are too low. Yet, more important than increasing the payments for accidents is extending the payments to include sickness.

The medical profession, too, will help itself to avoid mistakes. Its campaign of publicity will bring it closer to the people—a fact already most signally demonstrated in the pioneer work done by physicians in the movement against tuberculosis. In fact, judging by the past of the profession, we can always expect to find individuals taking the lead along the very lines I have suggested. My main point of argument is, that in the huge, approaching subject of social insurance, the profes-

sion as a whole, through its recognized official organizations should also take the lead, and that it should direct its attention and that of the public toward sickness prevention as the great object and sickness insurance as merely one of the instruments for bringing this about.

THE SOCIALIZATION OF MEDICINE.*

BY W. F. ZIERATH, M. D.,

SHEBOYGAN.

I wish to preface this paper by saying that I am not a Socialist in the common acceptation of the term. I have not made a study of Socialism and am not a member of any Socialistic party or propaganda. Politically I am a free lance with strong Democratic proclivities. My Socialism is that which is inherent in all of us, purely altruism. I love my fellow man and I want to see him live as God intended that he should live—the life of a healthy, happy individual.

Neither has this subject been selected because it might be extreme or sensational, but because it is one to which I have given a great deal of study and investigation during the past seven years. I am sincerely convinced that our present system of medical education and practice is absolutely defective, that it is not living up to its manifold possibilities and is not giving results in proportion to its ability to give them.

Like the reformation of many other outworn social and economic institutions we must discard those features which handicap the expansion of the Science and Art of Medicine, retain those that are good, and on this foundation build a new structure which will accomplish all those things which are within the realms of its possibilities. I am convinced that the Socialization of Medicine must, and eventually will become an established system in our social economy and then, and then only, will the Science and Art of Medicine attain its greatest usefulness and development. In one sense I am an extremist, but I hope to temper by extremeness with logical moderation. My reasonings and deductions are based entirely upon my personal experiences and observations during ten years of practice.

*Read at the 68th Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 7, 1914.

Medical economics has always interested me intensely. This interest has not been purely academic. At times it has been painfully practical. Like the vast majority of medical men I took up the study of medicine purely as a means to an end—wealth and social position. A life of service to my fellow men and ethics were purely secondary considerations. In the early years of medical training these were vague, hazy, nebulous things, but as medical education progressed they began to assume a true value. Medical ideals began to form. Service, ethics and scientific attainment assumed an importance that made the real reason for entrance into medical practice assume a subordinate position. Then came the entrance into active practice and—disillusionment.

The difficulties, both economic and scientific, that have beset my path, distressed and hampered me, are the same that have confronted you and the effort to analyze the reason or reasons for their existence has resulted in the formulation of the following epigram: "Medical Science and Finance Will Not Mix." Kindly observe that I did not say that Medical Science and Finance will not mix well. I said that they *will not mix,* and I mean just that. There are no qualifying adverbs. Unfortunately our present competitive medical system compels us to be primarily business men and secondarily scientific practitioners. We are constantly confronted with the necessity of making our scientific knowledge pay dividends and when the occasion demands, a majority of us will—no, must—subordinate scientific accuracy to pecuniary necessity.

The man who has made a financial success today in the practice of medicine, would either have made a greater success as a physician had he not had the financial aspect of practice to impede his scientific attainments, or he would have made a greater success as a financier if he had not been burdened with a medical education and indirectly its ideals and ethics. I admit that in many respects this is an audacious statement to make and in many concrete instances is absolutely false, but, as a general indictment, I maintain that it is true.

Medical practice today is a compromise between what we know to be best for our patients, individually and collectively, and their superstition, ignorance, prejudice, misinformation concerning medical matters, and the competition of our fellow practitioners. Our knowledge, our personality, our

skill and our humane impulses are things that have a commercial value. Success or failure, financially, is measured by our ability to manipulate these qualities toward a materialistic end.

The inevitable result is the commercialization of medicine in one form or another. Be it little or great, coarse or subtle, the consequences are always the same. Scientific truth and accuracy are sacrificed and a train of evils follow, so devastating, so destructive to wholesome medical ideals, that I shrink from the task of their enumeration. These commercialistic tendencies react not only to the detriment of the medical profession but insidiously pervade all phases of our social institution. Progress in all lines of humane endeavor is restricted in a greater or less degree dependent on its direct or indirect relation to the physical welfare of the community. We know and admit that the situation needs reform and in a small way we have tried to apply a remedy. The efforts of our Councils on Pharmacy and Chemistry and on Medical Education to correct abuses in their particular fields of activity have accomplished splendid results, but on the whole we are wasting an immense amount of time and energy in the accomplishment of that which could be obtained more directly.

A more drastic, a more comprehensive remedy must be applied to attain the nearly ideal conditions that most of us realize must prevail if Medical Science is to fulfil its manifest destiny as one of the greatest, if not the greatest, uplifting forces in the evolution of mankind. To attain these nearly ideal conditions I wish to propose the radical Socialization of Medicine as the panacea for the present situation. Necessarily this is a comprehensive subject and I can, in the limited scope of this paper, merely attempt to give you an initial survey of the broadest aspect of the proposition without attempting to go into the various details that may seem necessary to make the plan logical and workable.

The plan for the Socialization of Medicine that I would advocate is a radical and complete socialization, far more comprehensive than the partially socialistic plans now in operation in England and Germany. It should be absolutely national in its scope, unlimited and unrestricted by any communistic lines. Briefly considered the fundamental features are the following:

1. The expense of every agency used in the prevention and treatment of disease would be borne, not by the individual or the community, but by the National Government.

2. The payment of the services of physicians, nurses, sanitarians and health officers would be on a salary basis, the salaries to be proportionate to ability, character of, and length of services. Voluntary and involuntary retirement from active service would be on a pension plan modeled largely after that now in operation in the personnel of our army and navy.

3. Physicians, nurses and sanitarians would be educated in government-owned or regulated medical schools and hospitals at the expense of the government and admitted to these schools after competitive examinations, very much as we admit students to West Point and Annapolis.

4. The manufacture and dispensing of all therapeutic agencies, the administration of all hospitals, sanitariums and health resorts would be government regulated.

5. The country would be divided up on a population and area basis and these districts divided and sub-divided dependent on local conditions and sanitary necessity. Laboratories completely equipped for every diagnostic purpose would be established in each district. Hospitals and sanitariums would be so located and operated as to serve the district most efficiently. Large clinical centers with a corps of surgeons and specialists would be conveniently located to serve each district or combination of districts.

6. Laymen would be pemitted wide latitude in the choice of physicians but the amount of work demanded of each physician would be limited.

7. Methods of ascertaining the quality of medical services and the faithfulness of physicians and nurses in the discharge of their duties would be devised. Similarly, imposition on the part of the laymen would be restricted by a system of boards of administration and control.

Naturally such a radical departure from our present system of education and practice will promptly suggest to you a great many questions.

1. You will say: "Is it necessary, desirable, practicable and possible?

2. "Is it the best possible solution of the problem?

3. "Will it remedy the present well-known evils in the practice of medicine today, such as: a. Commercialism. b. Professional incompetence. c. Quackery. d. Patent medicine and drug store dispensing. e. Dispensary and free clinic abuses. f. The spread of various anti-medical cults and antagonisms.

4. "Would it be acceptable to the profession and the layman?

5. "Would the Science and Art of Medicine develop more rapidly under such a system than under the present system?

6. "Would the quality of medical services rendered to the people be better than that now given?

7. "Would the educational, scientific, practical and moral tone of the profession be elevated under this system?"

I want to answer all these questions by a most emphatic affirmative and in elaboration of the plan proposed discuss its effects on medical education, on the physician, on medical practice, on medical research and progress, on the layman and on the nation. Time forbids the use of specific instances and concrete examples and my arguments must necessarily be generalizations.

MEDICAL EDUCATION.

One of the most essential steps in the Socialization of Medicine is the education of the physician. Our present system is admittedly defective even though our Council on Medical Education has accomplished striking results in the elimination of some of the grossest evils. The end product of our present educational system—the physician—is far from uniform and the standards of professional competence vary too widely in different schools and states.

It is readily conceivable, that were the medical schools of the country controlled by some central body vested with absolute powers over entrance and graduation requirements, that the quality of medical education would attain a perfection utterly impossible under the present system.

We are living today in one of the most wonderful epochs of the history of civilization. One of the most striking things is the present tendency of modern thought. We are developing a world-wide spirit of altruism. We are beginning to think in terms of humanity. Men and men's souls are beginning to have a value other than in an economic sense. Men and women are willing—yes, anxious—to live a life of service to their fellow men. I do not mean to imply that this is a newly acquired tendency. It has characterized all ages in varying degrees, but I do maintain that this spirit is more universal and comprehensive than has distinguished any age in the past history of mankind. In no field of human activity can results be obtained affecting the people, individually and collectively, comparable to the practice of medicine when it is practiced on a purely altruistic basis. When so practiced it must be absolutely systematized, artificial restrictions removed and diversity of interests minimized. Under the socialized system the moral and educational tone of every individual entering into professional activity would be harmonious. There would be no diversified interests, these would be subordinated in the accomplishment of a general progressive movement.

The moral tone of the profession would be elevated by the selection of its personnel. Take out of medical practice the uncertainty of obtaining a competence, relieve practitioners of the necessity of making it the means of gaining a livelihood on the competitive basis and we have removed one of the greatest obstacles in obtaining proper candidates, physically and morally, for medical licensure. Under the socialized system we would have a surfeit of recruits to enter into medical practice. We could pick the cream of the land in its young manhood and womanhood to fill the ranks of medical priesthood. Every aspect of medical education could be adjusted to a nicety. Preliminary education and the education of the individual depending on the place he is to fill in the system could be regulated with a definite end in view. Diagnosticians, internists, surgeons, sanitarians, specialists, health officers and nurses could receive a training, both theoretical and practical, unapproachable under any other system of education. In short, medical education would be placed strictly on an efficiency basis.

You will say that under this socialized system of education, payment and pensioning of practitioners, individuality would be suppressed and mediocrity encouraged. Never! The educational scheme would comprehend scientific selection and the elimination of the unfit. Periodically, say every five years, every physician would be compelled to take a compulsory examination to deter-

mine his fitness for the position then held by him, his practical and theoretical knowledge of medical and scientific progress in his particular department and his fitness for advancement. Individual aptitude and ambition would be stimulated and would largely determine a man's place in the profession. Men with big ideas, men of genius would have an opportunity to work out their theories with materials and equipment which would be conducive to scientific accuracy and the obtaining of results. Medical education of the individual would be constant and continuous during his period of activity and not undergo systematic decadence shortly after graduation as is now too commonly the case.

EFFECT ON THE PHYSICIAN.

On the individual physician the Socialization of Medicine would effect a most wholesome change. Good salaries would be paid for professional services. Salaries proportionate to ability, the quality, kind and length of services and their just value to the community. Departments, grades and classes would be organized with salaries varying according to these various departments and grades. The uncertainties of the future would be provided for by a system of pensioning. Retirement would be voluntary and involuntary and the pension graduated according to the position attained at the time of retirement. The amount of professional work demanded of each person would be graduated and limited. The amount of time then spent in work, study and recreation could be so regulated that each individual could arrange the program of his activities to insure the highest degree of professional efficiency. Study would include compulsory periodic visits to clinics and post-graduate schools. The operation of the whole system would have a most salutary effect upon the relations of physicians with each other and upon their professional capabilities.

Release the medical profession from the thraldom of commercialism and immediately an immense reserve of energy, now practically wasted in mercenary competition, would be utilized in perfecting professional activities. Petty discord and jealousy would cease to exist, inasmuch as every physician would recognize in his fellow practitioner a man inspired by the same spirit of co-operation that stimulates him to excel in his particular field. Their interests would be mutual, not antagonistic. The polite competitor who shrugs his shoulders or elevates his eyebrows at opportune times would be relegated to the past. These tactics and the multitude of other like practices are purely the result of the competitive system.

Having the time, the opportunity and means of study at his command, undisturbed and undiscouraged by the possibilities of financial distress, unperturbed by the heartless struggle to attain and hold a practice and ever aware that if he would gain a more responsible position in his profession, that he must earn it by ability, it is conceivable that the inspiration for professional advancement would be a constant stimulus for self improvement.

You have all experienced that keen sense of satisfaction, that thrill of achievement in rendering service to a worthy charity case where true gratitude was evidenced, where people appreciated the fact that the value of medical services could not be reduced to a matter of dollars and cents. That would be the spirit of work under the socialized system. The moral effect of that spirit on the physician and the patient would be supremely elevating. There would be competition—competition among physicians to attain excellence in their work, competition that would be encouraged and would result in co-operation in the attainment of perfection of services and results. In place of economic competition there would be a harmony of action between medical men to bring the fruits of medical knowledge to apply most directly and effectively to the physical welfare of those who properly own and deserve it—the people.

EFFECT ON PRACTICE OF MEDICINE.

On the practice of medicine, socialization would produce a radical change. Under our present system only a comparatively small part of scientific medical knowledge is practically applied. The responsibility for this is due, largely, to the wide range in variation in the mental and moral status of physicians, their lack of material equipment, diagnostic facilities, hospitals, dispensaries and sanitariums, the ignorance of the laymen and their inability to pay for proper medical services.

Under the present system, the man with the pleasing personality and lucrative practice, the man who has commercialized his manners, his knowledge and his associations, dominates the situation. His opinion, right or wrong, in all matters is final. If he is well equipped and advanced in his theoretical and practical knowledge, he is a power

for good; but, too often, the fact that his practice is large and lucrative makes it impossible for him to keep abreast of the tide of medical progress. His ostentatious, self-assertative confidence in his own opinions is his strongest weapon of defense in preventing inroads into his practice by better informed men. Medical progress, in its practical application, is impeded in just the degree that such a man is able or unable to influence and mould the opinions of the layman.

Someone is always trying to get, hold or increase his practice by the process of the destructive elimination of his competitor. Consultations are avoided, not sought. The vital interests of the patient are sacrificed to the economic necessities of the practitioners. In eliminating the competitive system we would eliminate this phase of medical practice. Instead of antagonism and conflict of interests harmony of action and co-operation would exist. In difficult and trying cases consultations would be freely utilized and opinions given in the true spirit of scientific knowledge. The patient and the patient's welfare would be supreme. With laboratories and laboratory diagnosis, hospitals, sanitariums and clinics utilized to their greatest advantage, with physicians working in a spirit of fellowship and co-operation it is conceivable that the practice of medicine would be infinitely superior to that of the present.

During the latter part of August I spent two weeks in Rochester, Minnesota, and there all my theories and deductions concerning the value and the possibilities of the Socialization of Medicine were fully confirmed. The Mayo Clinic, today, is the strongest, most convincing argument in favor of the Socialization of Medicine and a living example of its potent possibilities. With such clinics scattered all over the country from coast to coast, as is comprehended in the socialized state of medicine, the future of scientific medical practice and progress and its application to the nation, staggers the imagination.

MEDICAL RESEARCH.

It will be unnecessary to dilate on the effect that the Socialization of Medicine would have on medical research and progress. It is self evident. Contrasted with our present efforts along these lines it would assume immense proportions and its results would be in a direct ratio to its opportunities. With the men, the equipment, the co-operation of the laymen and the profession, and the material at the disposal of the department of investigation and research, progress in this particular field of activity would be on a gigantic scale and assume an importance whose future could not be estimated.

EFFECT ON THE LAYMAN.

Medical knowledge and its vast possibilities of utilization are the heritage of a people, not the monopoly of a class to be used as a means of barter and gain. Medical knowledge is the product of the suffering and pain of countless generations. Of all things that should be free to humanity, this should be the freest. And that is the test of the socialization of medicine. Medical science has made stupendous strides in the last quarter of a century but the benefits given to the people in proportion to its vast opportunities to give are a mere pittance. Why? Because the system under which it is dispensed is utterly antiquated. The injustice of it must be apparent to all of you, if you have ever given it the slightest consideration. By what perversion of reasoning can we justify the giving of the best medical services to the wealthy employer of labor and to the laborer the least and the poorest. It cannot be justified but it can be analyzed and that analysis must be a potent argument in favor of the Socialization of Medicine.

Can you not conceive of the glorious possibilities of such a system in its application to the layman? Regardless of race or creed, wealth or social position, from the cradle to the grave he would be shielded and protected from the ravages of disease. Suffering, unhappiness, poverty and crime would become relics of the past. Life, indeed, would be worth living!

With physicians, nurses, hospitals and sanitariums distributed systematically over the country, every individual would be served far more efficiently than at present. With lying-in hospitals for expectant mothers, they relieved during the latter weeks of pregnancy and an appropriate length of time after confinement, of the worries and hardships of household duties, the effect upon the health of the mothers and upon infant mortality would be decisive. Pediatric and isolation hospitals, combined with uniform and properly enforced quarantine regulations would wipe out the contagious diseases of childern within a comparatively short time. The whole nation would become a child welfare association and its physical, moral

and intellectual future assured. The conclusion is inevitable.

Of just as great importance would be the systematic education of the layman in matters of health preservation and disease prevention. It would be pursued on a scale as extensive and systematic as the education of the physician, but, of course, not so comprehensive. The conflicting theories and opinions of physicians would not lead them astray because physicians under the socialized system would know their profession. Friedmann fakes and Twilight-sleep rot could not exist.

The ignorance of the layman and economic necessity has made the patent medicine industry, the quack and the drug store dispenser possible. Under the proposed system they would be automatically eliminated. Would the layman accept such a system? Yes, enthusiastically! As a concrete example let me cite the energetic way in which laymen have taken hold of the tuberculosis situation. Though started by medical men, it has been practically taken out of our hands and is being far more effectively administered than we could ever hope to do it.

Let the layman appreciate the possibilities of the Socialization of Medicine and we shall not have to advocate it, it will be forced upon us.

EFFECT ON THE NATION.

The health of a nation is its greatest asset. With the Socialization of Medicine an accomplished fact, the nation would prosper physically, morally and economically as it never has before. Preventive medicine and sanitation would attain the place of pre-eminent importance. The whole country would become a Panama Canal Zone on a stupendous scale. Every agency used in the prevention and treatment of disease would be systematized and coordinated. Every question, directly or indirectly affecting the health of the nation would be directly or indirectly dealt with by the all-powerful Department of Health. The White Plague, the Social Evil, Child Labor, Pure Foods, the Liquor Problem, Eugenics, Workingmen's Compensation Acts, Housing and Occupations and Expert Medical-Legal Testimony would assume an importance that would assure their proper solution. These are things that vitally concern the health of the people and the dispensation of justice.

Under the socialized state of medicine, medical antagonism, anti-vaccination and anti-vivisection propagandas, Christian Science and other forms of anti-medical intellectual junk would be minimized or entirely suppressed. They are the products of the defective administration of medical knowledge.

The Socialization of Medicine is not a thing to be discussed on a purely sentimental or philosophic basis. It is a practical entity, a live issue second in importance to nothing else. And when the Socialization of Medicine comes—and it is coming, coming just as surely as the sun rises in the east—then will the Science and Art of Medicine come into its own. Then will it be elevated to the highest pinnacle of human achievement, then will it receive the homage it so richly merits and shine resplendent in the glory it so rightfully deserves.

DISCUSSION.

DR. R. U. CAIRNS, River Falls: The men who have followed the progress and study of medicine in the various European countries must appreciate that we are moving toward State Medicine. The European countries have advanced further along this line than we have, but those who have noted in this country the various legislative acts, such as the Employers' Liability Law, in charge of our states, know that we are moving in the same direction; and while the theories along this line cannot be carried out in letter, and things which we may say today are merely prophecies of the future, nevertheless the matter should be given more careful consideration. The matter of contract practice has been most bitterly fought by our medical associations, but the time has come when it is useless for us to fight the movement towards social medicine. It would be better if we were to adjust ourselves to the situation, and consider what our relations are today to the state and to the state control of medical practice. The time is not coming in my day nor in the day of many of those here present when the practice of medicine will be entirely in the hands of the state; we shall live out our day as private practitioners; but the generation which is coming after us, the men who are in school today, may see the day when most of the medical practice will be controlled by the state, as a large share of it is controlled by the state in Germany and Austria and in a large degree in England today.

STATUS LYMPHATICUS.*

BY DANIEL HOPKINSON, M. D.,
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Status Lymphaticus is one of the obscure causes of sudden death, and is brought to our attention from time to time, by an unexpected fatality following causes which are apparently trifling and in-

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adequate, e. g., immediately following preventive inoculation with diphtheria antitoxin, following fright, sudden death in water from cramps, and during the administration of an anesthetic in spite of the utmost skill and watchfulness.

Plater[1] in 1614 noted the fact that the thymus gland was enlarged in certain cases of sudden death. Bichat reported similar observations in 1723. Kopp[2], in 1830, associated enlarged thymus with laryngospasm and exploited the theory of thymic asthma as the result of thymic enlargement. Grawitz[3], in 1888, believed that death was due in these cases to compression of the trachea by the enlarged thymus, basing his belief upon a couple of autopsies, although compression of the trachea was not evident in either case post-mortem. Paltauf[4], in 1889-90, was the first to collect a large number of cases of sudden death in adults which on post-mortem examination gave in a marked degree proofs of the correctness of his theory of the lymphatic chlorotic constitution, i. e., enlargement of tonsils, lymphatic glands, follicles at the base of the tongue, spleen, and thymus, with, in most cases, narrowing of the aorta. He calls attention to cases of sudden death during bathing, also during or after a cold bath in which, post-mortem, the anatomical findings of status lymphaticus presented themselves. Kundrat[5], in 1895, published ten cases of death under or immediately following anesthesia by chloroform or a mixture containing it; post-mortem findings of all cases presented marked characteristics of the lymphatic constitution. Kundrat also noted the association of status lymphaticus with Basedow's disease in one case. Escherich[6], in 1896, adopted Paltauf's theory in modified form, suggesting that with the gross anatomical lesions of this condition there developed a neurosis, the result of an auto-intoxication, upon which death depended, the fatal ending being caused by inhibition of the heart's action. Since this time the manner of death in these cases has been a source of great dispute. Some writers attributing the cause to a mechanical disturbance, others to a toxemic or secretive disturbance. The theories as to the cause of death may be divided into, 1st, mechanical, either pressure upon the trachea resulting in irritation of the tracheal nerve filaments followed by reflex inhibition of the heart's action; or direct compression of the trachea with resulting strangulation; or pressure upon the great vessels and cardiac nerve trunks. This pressure may result from edema or congestion of the thymus; by a bending back of the head and a narrowing of the space occupied by the trachea and thymus gland; or by a sudden raising of the enlarged thymus into the critical space of Grawitz. Enlargement of the gland is also said to result from the retention of its own secretions. 2nd. Non-mechanical, under which we have, 1st, the overproduction of the thymic secretion resulting in a toxic condition; 2nd, defective secretion of the thymus; 3rd, a toxic action of some substance not definitely known; 4th, a neurosis through which the nervous system is made very sensitive and cardiac inhibition results from slight and often undiscoverable causes, which condition is accompanied by enlargement of the thymus and other lesions of status lymphaticus.

Wiesel[7] believes none of the theories advanced, but asserts that "the hypoplasia of the chromaffin system, i. e., adrenal tissue, associated with status lymphaticus will explain, for chromaffin cells perform an important function, by a secretion which supports blood pressure, and influences the tonicity of the blood vessels and cardiac muscles. When, therefore, a substance which influences the function of the heart and regulates blood pressure, is absent or diminished in quantity, excessive fluctuation in the blood pressure mechanism may cause death from atony and dilatation of the heart and vessels, intestinal hyperemia and cerebral anemia, which have all been noted in all the cases of sudden death from status lymphaticus in literature."

Hart[8] reviews 158 articles and records of cases of thymus death, and concludes that the thymus must be regarded as an epithelial organ and probably as an organ with an internal secretion. Excess rather than deficiency of its metabolic products is injurious for the organism. Mechanical thymus death is usually due to a combination of several factors. The results of excessive thymus function are an auto-intoxication with especial harmful influence on the innervation of the heart, and by this means he explains sudden death with enlarged thymus and also post operative fatalities in exopthalmic goiter.

Griffiths[9] does not agree with Warthin and Rehn who take the stand that it is now definitely proved that the majority if not indeed all such cases are undoubtedly due to pressure by the enlarged thymus gland, and that the older theories of status lymphaticus or other conditions as a cause of death

are practically exploded. He concludes that while there are cases in which death results from pressure of the thymus gland upon the trachea, these are exceptional, and warning is given in such cases by symptoms of strangulation gradually increasing in severity. The cases of actually sudden death or at least rapid death depend upon a neurosis which may be associated with lymphatic and thymic enlargement as its anatomical manifestation, but is not necessarily so.

Barbarosa states that thymectomized animals offer considerable resistance to chloroform poisoning, while animals and man with persistent thymus gland succumb to small amounts.

Ohmacher is strongly disposed to the belief that a periodical increase of intracranial pressure on the interior or exterior of the brain, or on both simultaneously, manifesting itself as the result of the tendency to edema characteristic of status lymphaticus, is a direct provocative factor of such neuroses as spasm of the glottis, tetany, infantile eclampsia, epilepsy, and other various forms of sudden death incidental to the lymphatic state.

PHYSICAL AND ANATOMICAL FINDINGS.

Dr. Norris of New York from a study of eighty cases in two thousand autopsies recognizes the following characteristic external findings of cadavers in these cases, and believes the possibility of making a diagnosis of such cases during life has been established; "body is graceful in its proportions except in disease," well nourished but rarely obese. Thighs well rounded, arched anteriorly and laterly, in well marked cases associated with a broad pelvis, upper arms rounded, shape graceful, forearms not rounded except in marked cases. This configuration is not considered as a female type of build but rather a persistence of the juvenile contour. Skin frequently glassy, less often pasty. The writer further states: "Our experience at the morgue teaches us that the external appearance is of considerable importance in diagnosing the presence of the status cases, especially those which are recessive in type. It is certainly a striking fact that time after time without clinical history, the diagnosis has been made before autopsy."

H. Schridde[10] gives us the main features of physical findings: pale, pasty, and flabby skin; enlarged thymus, swollen lymph glands and tonsils, with lymphocytosis; none of these are constant findings, and may be induced by other processes or infections. He found however in every case without exception that the follicles at the base of the tongue were materially enlarged, and suggests that when these findings are present, careful search should be made for other signs. Of less constant finding is the palpably enlarged spleen.

Post-mortem anatomical findings are: 1st, an enlarged thymus gland, often covering a large portion of the pericardial sac. Bovaird and Nicoll weighed the thymus glands of four hundred and ninety-five children under five years of age, and found the average weight during the first two years to be six grams. John Howland considered any gland weighing over ten grams as pathological. 2nd. Enlargement of the lymph nodes, especially the mesenteric and lymph follicles of the digestive tract, and tonsillar nodes. 3rd. Enlargement of the spleen. 4th. Prominence and multiplication of follicles at the base of the tongue. 5th. Dilated heart, especially the right ventricle, the muscular wall being flaccid, and sometimes a small heart with contracted aorta. Less constant post-mortem findings are, enlargement of the tongue, enlargement of the thyroid gland, (Escherich, more than 50 per cent of the cases,) edema of lungs and brain, with changes in the bone marrow. These post-mortem findings are not always constant, some cases presenting hyperplasia of the thymus gland alone, while on the other hand cases are seen presenting the most pronounced type of thymic and glandular hyperplasia combined with hypoplasia of the genital organs and the arterial system.

Microscopically the thymus and lymphoid elements show a simple hyperplasia. Ewing has observed hyperplasia of the lymphoid marrow of long bones, with diminution of hemoglobin, and a marked lymphocytosis. Blumer has observed endothelial proliferation associated with the general hyperplasia of the lymphoid elements. Kryle observed marked parenchymatous destruction in the testicle.

Associated conditions. Capelle[11] noted the remarkable frequency of enlarged thymus and severe exopthalmic goiter, and refers to the surgical importance of the condition of the heart, patients succumbing a few hours after operation with delirium cordis; and nothing but enlarged thymus may be revealed post-mortem to account for the death.

Gierke[12] found enlargement of the thymus in forty-two cases of Graves' disease; he believes that

most of the deaths following operations for this condition occurred in patients in whom the thymus was persistent, and noted that the thymus was persistent in eighteen of thirty-five cases of exopthalmic goiter terminating fatally after operation.

Dernine calls attention to the fact that the heart in exopthalmic goiter is peculiarly sensitive to the influence of fatigue, and that its reserve energy is rapidly exhausted, and that it enlarges. If, therefore, exoptholmic goiter be associated with status lymphaticus, there is a double reason for the heart failure following operative procedure on the thyroid. As to the exact relation between the thymus and thyroid gland there is great diversity of opinion. Bircher believes in the possibility of a hyperthyroidism of thymic origin, and that the thyroid and the thymus have an antagonistic action. Capelle and Bier are of the opinion that the thymus aggravates the hyperthyroid symptoms. Gierke believed that the two glands compensate each other more or less, and that in strumectomy there is a diminution in the thyroid secretion, and consequently an increase thymus function which causes a hyperthymization.

Reviewing the various theories Crotti[13] concludes: "We can draw the conclusions that the hyperplastic thymus aggravates Graves' disease, but we do not know the exact relation between the thymus and the thyroid. The solution of the problem is still a difficult one, and will be solved probably when we know a little more about the internal secretion, and the part played by the hormones."

Death during or shortly following chloroform anesthesia. W. J. McCardie[14] reports several cases of death during or shortly following chloroform anesthesia, in which post-mortem the anatomical findings of status lymphaticus presented themselves, and to which condition he attributes the cause of death. Referring to delayed chloroform poisoning McCardie suggests that there is some association between status lymphaticus and the large liver, and that it will be interesting to have in future reports of deaths ascribed to delayed chloroform poisoning or to status lymphaticus, full microscopic examination of all the organs, and more particular notice of the state of the liver. He further suggests that probably the status lymphaticus weakens the resistance of the body to the remote, as well as to the immediate toxic action of chloroform.

Kolisko for many years performed autopsies, about six annually, on persons dying from cardiac syncope under chloroform, and always found signs of status lymphaticus. In the Children's Clinic at Gratz the records are said to show that during the last twenty years in every chloroform fatality there was present the lymphatic hyperplasia. As McCardie says, besides the number of deaths that have taken place, there must have been many cases of recovery from danger in patients with status lymphaticus in whom the condition had not been recognized.

Taylor[15] mentions the following conditions as having been associated with thymic enlargement: myxedema, congenital struma, cretinism, rachitis, congenital syphilis, and acute infections. As to hereditary and family influence Griffiths[16] reports seven cases of sudden death in one family; autopsy of the last case showed enlarged thymus as the cause of death. History of previous cases leads Griffiths to conclude that death was due to the same cause.

Hedinger records a family in which all nine sons died between the ages of three and nine years after a few hours of slight depression with accession of sudden coma, and death in less than an hour.

Age and Sex. McCardie in a collection of thirty-five cases found the average age to be sixteen years, youngest six months, and the oldest fifty-five years; twenty-four were under twenty years. Sex has apparently no influence, these cases being about evenly distributed.

REPORT OF CASES.

The following cases have come under my observation during the last three years.

Case No. 1. June 1, 1911. E. P., age 13 years. Brought to the autopsy table with the following history: Had been apparently in a good state of health up to the day of his death, on which day he was assisting in moving and carrying articles of furniture up several flights of stairs. He complained to his father of feeling dizzy, and was sitting on the seat of a wagon when his father last saw him alive. When the father returned to the wagon from the house the boy was lying on his back on the seat of the wagon with his legs widely apart. The father thinking he was just resting addresed him, but receiving no answer, examined him and found that he was dead.

Post-mortem examination showed the following:

Body of a male, apparently about 13 years of age; height, four feet ten inches; weight, estimated ninety-five pounds. External examination revealed enlargement of the inguinal glands, other external findings negative. Thoracic cavity: pleural cavities negative, thymus gland persistent and greatly enlarged, covering a large portion of the pericardium, the lungs small, the right weighing five ounces, left four and a half ounces, color pale, otherwise negative; heart weighed eight ounces, vessels distended, right auricle and ventricle dilated and filled with blood, right auriculo-ventricular opening admits three fingers, left auriculo-ventricular opening admits two fingers, left auricle and ventricle negative, mitral and tricuspid valves show no gross evidence of disease, pulmonary and aortic valves apparently competent, aorta small and shows a few atheromatous patches. Esophagus negative. Abdominal cavity: peritoneal cavity negative, stomach mucosa congested, intestines negative, mesenteric glands all greatly enlarged, pancreas negative, liver somewhat congested, spleen shows the Malpighian bodies very prominent and the consistency increased, the left kidney congested, the right kidney negative, bladder and ureters negative.

Case No. 2. June 21, 1911. G. R., age 15 years. Brought to the autopsy table with the following history obtained from the mother of the deceased: had not been feeling well at irregular periods for some six months; two days before his death he was taken sick and compelled to stay home from school on account of his sickness. On the twenty-first of June, the day of his death, a physician was called, who after examination of the boy stated that in his opinion the boy was suffering from concussion of the brain, and inquired as to whether he had suffered from some fall or blow. Three hours after the physician left the boy's condition became so serious that the physician was again called, but the boy was dead before he arrived. The mother and father desired a post-mortem to clear up the question of injury.

The following are the post-mortem findings: Body of a male; height, 4 feet 10 inches; nourishment poor; external examination negative. Thoracic cavity: pleural cavities negative, thymus gland persistent and greatly enlarged, covering a large portion of the pericardium, lungs negative, heart small, weighed six and a half ounces, measured nine by six by seven and a half cm., right auricle and ventricle dilated, filled with clotted and liquid blood, left auricle and ventricle negative, valves all show no gross evidence of disease, blood vessels negative, esophagus negative. Abdominal cavity: peritoneal cavity negative, stomach and intestines negative, mesenteric glands all enlarged, liver negative, kidneys negative, spleen weighs four and a half ounces, measures twelve by six by four cm., shows no gross evidence of disease, bladder and ureter negative. Skull and its contents: skull negative, membranes of brain negative, brain shows no gross evidence of disease, sexual organs negative.

This body had been embalmed which embalming might have obscured parenchymatous changes from gross inspection, but microscopic examination of the spleen, liver and kidneys did not show such evidence.

Case No. 3. Aug. 15, 1914. S. K., age 4 years. Was brought to the autopsy table with the following history: Last seen alive at ten A. M. on August 14th and was found dead at five P. M. under a wash tub; this wash tub early the same day had been tilted on one side, and supported in this position by a stick, under the wash tub was a jar of pickles. When the body was found the tub was lying flat, the support having fallen. The following are the post-mortem findings: Body of a male child, height 37 inches, weight 28½ pounds, face extremely red, conjunctiva somewhat injected, post-mortem lividity slight on the left side and back, lips slightly cyanosed, a white foam exudes from mouth and nostrils, nourishment good, cervical glands palpably enlarged. Skull and its contents: fontanels closed, skull negative, cerebral vessels injected, brain otherwise negative. Thoracic cavity: old adhesions in left plura, right plura negative, both lungs show edema, thymus greatly enlarged, extending four cm. below the sternal notch, covering a large portion of the pericardium, the right lobe being larger than the left. Heart: pericardium negative, right auricle and ventricle dilated and filled with blood, tricuspid opening admits two fingers, left auricle negative, wall of left ventricle somewhat thickened, valves all apparently competent, foramen ovale closed. Neck: tonsils enlarged, lymphatic glands of the neck greatly enlarged. A small nodule situated at the bifurcation of the right carotid artery and thought to be the carotid gland, was later found by microscopic examination to be accessory thymus tissue. Abdominal cavity: peritoneum negative, stomach and

intestines show no gross evidence of disease, pancreas negative, spleen slightly enlarged, venous congestion apparent, kidneys negative, liver normal in size, consistency and appearance, mesenteric glands all enlarged, bladder and ureters negative.

In cases number one and two from the anatomical findings one would conclude that death was due to acute dilatation of the heart, and without adequate cause for such dilatation in the previous history as in case number one, apparently in good health up to the day of death, and in case number two no history of traumatism as was suspected by the attendant physician; the associated enlarged thymus and general lymphatics must be considered as a factor in the resulting cardiac failure. In case number three, while suffocation may have resulted from the conditions under which death took place, the cyanosis of the face, the sub-pleural and sub-epicardial hemorrhages which are usually among the post-mortem findings of suffocation were absent, and it is possible and even probable that the sudden fright may have rendered the child unconscious and prevented an attempt to rescue himself, or give alarm. The anatomical findings were certainly those which presented themselves in status lymphaticus.

Conclusions. In conclusion, while in most cases as McCardie says, little or no previous history suggesting the enlarged thymus has been noted, the patient having been apparently well and strong up to the time of death, in small children there is frequently stridor causing noisy, difficult respiration, often called thymic asthma, which may appear suddenly and disappear suddenly; this should call attention to and demand an examination of the thymus gland. I would suggest that not only the heart and lungs be examined before administering a general anesthetic, but also an attempt made to outline a possibly enlarged thymus, and especially in cases of exopthalmic goiter submitted to operative precedure, as history has shown that most of the cases resulting fatally following operation are accompanied by enlarged thymus, which may be a factor in the fatal issue.

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MODERN ILLUMINATION AND ITS RELATION TO OCULAR COMFORT.*

BY NELSON M. BLACK, M. D.,

MILWAUKEE.

Three years ago a special committee was appointed by the A. M. A. to make a study of the effect of different lighting systems upon the eye. The problem of this committee has been to discover the form, distribution, intensity, and quality of light from the point of view of the health of human eyes.

The work is not completed, but the preliminary announcements of result are of considerable interest.

Among the aspects of lighting that have definite relations to the eye are: (1) evenness of illumination; (2) the angle to which the light falls on the object viewed; (3) the diffuseness of the light; (4) the evenness of surface brightness; (5) the intensity of the illumination; and (6) the quality of the light. The first four of these factors have been found by means of experimentation to be closely connected, although not absolutely uniform in their variation. Together they constitute what the experts call the *distribution* of the light. The ideal condition of the distribution is to have the illumination as uniform as possible over the field of vision, with no extremes of surface brightness.

*Read at the First Annual Meeting of the Wisconsin Eye, Ear, Nose and Throat Specialists, Oshkosh, Oct. 8, 1914.

Daylight has been found to be the most satisfactory form of illumination, from the point of view of distribution. Daylight is pretty well diffused by numerous reflections before it reaches the windows. Inside the room, the window or skylight has a comparatively large area of relatively low brilliancy. These two factors contribute to a nearly uniform illumination of diffused light, with absence of extreme surface brightness.

Of the systems of artificial illumination, the so-called indirect is the best. In this system, the source of light is concealed from the eyes, the light being reflected to the ceilings or walls, and from these to the working surface. In direct illumination there is always the danger of having extremely bright spots in the illuminated surface. A system called the "semi-direct" was found to be little better for the eye than the direct system. In this the light is thrown to the ceiling or walls, as in the indirect system; but part of the light is allowed to come through translucent shades.

The relation of the different systems of lighting to the diminishing efficiency of the eyes was brought out in a series of experiments in which daylight was shown to be almost without effect upon the eyes after three or four hours of work; under direct artificial illumination the eye loses working power at a very rapid rate, and almost as rapidly with the semi-indirect illumination. The indirect illumination was found nearly as harmless as the daylight. Sharpness of vision was also found to be highest, for any given degree of illumination, under daylight, and poorest under direct artificial lighting.

From the evidence at hand it seems quite certain that the discomfort and the loss of visual efficiency the result of use of the eyes under improper artificial illumination must be interpreted largely as muscular fatigue of the muscles controlling the protective apparatus of the eye, the extra ocular muscles and the muscles of accommodation.

Dr. Ferree in explaining the fatiguing effect of direct illumination states:

"1. The images of the bright spots near the margin of the retina arouse a reflex tendency to fixate on them instead of on the objects held in the center of attention; 2, the bright spots in the field of vision, but not in focus, arouse an unconscious reflex tendency to focus on them, so that there is constant variation in the accommodation of the eyes; 3, the bright spots fall on portions of the retina that are not adapted to them, cause discomfort and lead to spasmodic contractions of the muscles, which disturb the clearness of the image and add greatly to the fatigue. The result of these factors working together is excessive eye strain, which shows itself in a loss of power to do work."

In addition to the factor of distribution must be considered the intensity and quality of illumination.

INTENSITY.

For daylight and the indirect system, a wide range of illumination allows the eye to continue at work for several hours without undue strain, or rather without considerable falling off in efficiency. But with the semi-indirect and the direct system, there is evidence of fatigue at every intensity of illumination. In the semi-indirect, however, the eye can continue at work comfortably at an illumination represented by something more than two candle-power at the distance of a foot from the working surface. When the intensity is considerably more or less than this, even the semi-indirect illumination soon tires the eye. As most artificial lighting systems give a much greater intensity than this, the semi-indirect systems are as injurious to the eyes as the direct systems.

However, the safe intensity of illumination for the semi-indirect system is far too low for clear vision in most kinds of work. It is, therefore, impossible to get high acuity and low loss of efficiency with any system of artificial lighting except the indirect, although the semi-indirect will suffice at the safe intensity for most home work and office work.

The intensity upon the working plane for indirect illumination usually specified by Illuminating Engineers for ordinary use is a minimum of 2½ to 3½ foot candles.

QUALITY.

In comparing the spectra of daylight illumination we find considerable difference in the intensity of the illumination between bright sunlight, blue sky, and overcast sky.

Photometric measurements have brought out the striking fact that the actual illumination expressed in foot candles on an overcast day with no blue sky is about double the illumination on a perfectly clear day, but we must not lose sight of the fact

that the most perfect refraction, diffraction and diffusion of the sun rays exist on overcast days.

Ives, on striking an average of a large number of spectrophotometric measurements on various kinds of daylight, concluded that the color of average daylight "may be accepted as having very nearly the energy distribution of a black body at 5,000° absolute," while the ordinary illuminants, such as the ordinary 16 candle-power carbon incandescent lamp, the tungsten incandescent lamp and the welsbach gas burner, have the color of an incandescent black body heated at 2,000° C. This means that when giving the same measured illumination, our common illuminants, as compared with daylight, are very deficient in blue light and have an excess of yellow and red light.

In comparing these it will be seen at a glance that the wave-lengths from that portion of the spectrum which cause the greatest decomposition of the visual purple (the greenish yellow waves) are more nearly equal in energy than in any other portion of the spectra. There is in the spectra of artificial illuminants a marked increase in the energy toward the red end and a marked decrease toward the blue end compared with the spectrum of solar light.

The result is a very marked difference in the quality of the retinal stimulation from artificial illumination compared with that of solar light. *Because sufficient time has not elapsed for evolutionary changes to take place and adapt the eye, the visual apparatus cannot be subjected to this difference in quality of radiant energy for any length of time at proportionately as high intensities with artificial light as with daylight without manifesting ocular discomfort.*

EVOLUTION.

Evolutionary changes in any organ of the body are brought about by a change in the actual requirements of that organ, the result of different conditions and environment extending over a very long period of time. There was practically no long-continued use of the eyes under artificial illumination before the discovery of the refining process, which produced an efficient artificial illuminant from petroleum about the year 1854.

Since Edison's production of the carbon incandescent lamp in 1878, the number of hours the eyes are used for close work under artificial illumination has been enormously increased. In the last two decades the absolute demand on the ocular apparatus has been enormously increased by reason of the tremendous increase in the volume of work per capita, requiring almost unlimited amounts of letter-writting, billing, auditing, bookkeeping and office desk work; besides this there is the voluntary use of the eyes in keeping pace with the apparently increasing amount of real literary work, as well as the newspapers, periodicals, popular magazines and books. Our schoolchildren in preparing for their life-work are required to devote many more hours to reading and studying in the school and home than were required of the preceding generations. This increased use of the eyes has been made possible by the development of artificial illumination and the improvement made in it. The arts of printing, illustrating and paper-making have developed correspondingly, and, as in the case of artificial illumination, without realizing until recently the untoward effects on ocular comfort and conservation of vision of the so-called improvements. Thus it must be apparent that far from sufficient time has elapsed for evolutionary changes even to begin to adapt the eyes to the tremendously increased use and comparatively abrupt change in environment. The eye, therefore, by process of evolution should still be best adapted to the energy values of the wave-lengths of solar light.

EFFECTS OF INVISIBLE RADIATION.

There seems to be no definite concensus of opinion as to the effects of ultra-violet and infra-red as met with in the illuminants in ordinary use.

Any kind of glass is opaque to ultra-violet rays shorter than .200 micron wave lengths and practically every source of artificial light at present in use has a glass envelope. The cornea transmits rays from .700 micron to .360 micron and is partially opaque to the ultra-violet up to .300 micron, from this point on the absorption is complete. The lens begins to absorb rays in the blue of the visible spectrum and is entirely opaque to rays of less than .350 micron wave length. Research has shown that blue, violet and especially ultra-violet rays from .400 micron to .350 micron cause the lens to fluoresce and as these rays reach the retina this tissue also fluoresces. This phenomenon forms a fog or haze which reduces ocular efficiency some, but unless the radiation in this region is stronger than in daylight there is no likelihood of injury to the eye. When sources are used which will give

very high intensity of ultra-violet in this region such as sunlight at high altitude, arc experimentation, and in arc welding, complete removal is necessary.

Injury is principally due to the ultra-violet in the region between .300 micron and .200 micron. The iron arc being the richest in this region of any known source of light. It is well known that the short wave radiations from very intense artificial light sources produce lesions of the various tissues of the eyes, sometimes irreparable injury, but that is outside the subject under discussion.

It would seem from the result of recent experiments reported by Vogt that the effect of the infra-red rays must be taken into consideration. His conclusions are that the infra-red rays from white incandescent bodies reach the retina in much larger quantities than the visible rays; that the number of infra-red rays derived from artificial illuminants, especially electric light, is greater than from natural light (daylight); that it is possible to stop these rays only by means of a very thick layer of water; the lens is the greatest obstacle of the dioptric mediums to their passage, and consequently they play the most important rôle in the etiology of glass-blowers' cataract. This being the case, the question arises whether certain external and internal ocular affections are not caused and furthered by such rays.

SYMPTOMS OF OCULAR DISCOMFORT.

One individual may be affected differently from another. The most common complaint, after a longer or shorter period of exposure, is that the eyes feel hot and dry with a sense of fullness about them. The details of objects looked at become a little blurred, as if the illumination were being diminished. At this stage winking is noticeably increased, as is also the hot, dry feeling and sense of fullness about the eyes. There is an occasional stinging pain causing the lids to be tightly closed for a few seconds. Later, if the effort to use the eyes is persisted in, the finer details of objects are practically lost for an instant and can be brought out only by closing the eyes for a few seconds. There is frequently an actual ache in the eyes and head, mental activity is dulled, and there is an almost complete inability to keep the eyes open, together with marked drowsiness. The eyeballs and lids usually show more or less congestion. A short rest with the eyes closed or shaded will bring about a marked sense of relief, which on resuming the occupation gives place to the same train of symptoms that now make themselves manifest much more quickly. Increasing the intensity of the illumination for a short time will seem to give relief, but it is very quickly followed by greater discomfort.

PROTECTIVE MECHANISM OF EYE.

Inasmuch as the action of light is direct and the decomposition of the visual purple depends on the intensity of the physical characteristics of the light, gaining entrance into the eye, the end elements of the optic nerve must have some means of protection from the varying degrees of intensity of illumination to which they are constantly subjected.

The protective mechanism of the eye consists of the brow, the lids, and iris. There are also two protective agents within the retina itself: the pigment epithelial layer of the retina and the visual purple (Sisson.) There is no reaction in the muscles of the brow or the lids, when in a normal state, to light directly applied to them. In other words, the closing of the eye is a reflex act, the result of a centrifugal impulse from the molor oculi center, due to stimulation from some other source—probably these are efferent impulses by way of the optic nerve, although according to Fuchs, the most frequent cause of photophobia is through irritation of the terminal ends of the fifth nerve when in a state of inflammation, as observed in phlyctenular keratitis and in superficial erosions or abrasions of the cornea. Blepharospasm and lacrimation are considered reflex acts, the centripetal portion of the reflex arc being either the trifacial or optic nerve, the centrifugal portion, the facial nerve.

The contraction and dilatation of the pupil in a state of health is a reflex act secondary to retinal stimulation, although Nepveu states that in all animals, except mammals, the pupil can be made to contract by direct action of sunlight on the iris. This contraction may be prompt and lasting, may occur slowly, or may be brief. Some animals also give a paradoxic reaction, dilatation instead of contraction. He finds that the reaction is strongest for yellow and green light and diminishes toward each end of the spectrum.

When a ray of light enters the eye a centripetal impulse is set up which is conveyed to the visual center and the motor center of the eye from which

centrifugal impulses are sent to the various points of distribution of the motor oculi nerve. Naturally the greater the intensity of the retinal stimulation the greater the intensity of the centripetal and centrifugal impulses.

There is no doubt that with artificial light of a given intensity there is a greater irritation to the retinal elements than with solar light of the same intensity. The increased centripetal impulses will produce a more active centrifugal impulse, with consequent greater contraction of the muscles of the protective mechanism of the eye, which after a time results in ocular fatigue and discomfort.

SUPPLEMENTARY FACTORS CAUSING OCULAR DISCOMFORT.

Muscular contraction demands an increased blood-supply to the parts and we have a passive hyperemia which in a short time becomes active, the result of muscular spasm. This is manifested as a hot, dry feeling and a sense of fullness or sensation of "sandiness," which is accentuated by the lid rubbing on the eyeball, the result of increased winking. The intensity of the artificial illumination is practically constant and does not vary between such wide limits as does the intensity of daylight, so there is less opportunity for regeneration of the visual purple. After a time the supply of this photochemical substance becomes materially decreased; the decomposing activity of the light remaining the same, the resultant energy of the cone stimulation is diminished because of the exhaustion of the visual purple. The result is a lessened centripetal impulse with consequent lessened centrifugal impulse, a relaxation of the muscular action of the protective mechanism and the already overtired eye is flooded with light. This causes a spasmodic, very active efferent and afferent impulse, which is manifested by a stinging pain, causing the eyes to be tightly closed. After there has been sufficient restoration of the visual purple the eye can again continue its work. With daylight there are continual changes in intensity which tend to produce more restful ocular conditions.

INSUFFICIENT ILLUMINATION.

Insufficient illumination is a factor producing ocular discomfort, especially in work requiring the observation of fine detail. The intensity of the light rays is not great enough to cause a rapid breaking up of the visual purple and consequent cone stimulation. The eyes are brought closer to the object in the effort to see more clearly, which results in an increased effort of the muscles of accommodation and convergence with consequent ocular fatigue. The pupil in weak light dilates to admit a greater amount of light. The accommodative act is accompanied by a contraction of the pupil, and its attempts to dilate under the conditions of illumination and contract under the accommodative effort add to the ocular discomfort.

CONCLUSION.

In conclusion it might be said that the eye at present, through the process of evolution, is adapted to solar light and can accommodate itself to marked variations in intensity of light of this character with less discomfort than with artificial illumination, because of the quality of the retinal stimulation. There is, however, no reason why ocular discomfort should be any more in evidence with the use of artificial illumination than with solar light, when due consideration is given to the various factors and important conditions bearing on its proper and intelligent application; for, as has also been pointed out, unintelligent and unscientific application of solar light to our every-day needs may and does produce even more harmful results than those often produced by artificial illumination. Beneficial results can certainly be obtained through thorough investigations of the effect of different wave lengths, and amounts of energy on the eye; the adjustment of the color of artificial illumination by selection and design of source; the modification of the effects by selection of color and characteristics of the surroundings; the change in color of reflected light by the color absorption characteristics of paper, ceiling and other surfaces and the practical application of the infra-red and ultra-violet absorption characteristics of glass and other media. The ocular comfort of this and future generations depends on the solution by illuminating engineers of the problems of the proper application of artificial and natural illumination and it is gratifying to note the concordance of ideas and methods of application, and the unanimity of purpose, exemplified by the work of the active members of this profession, in co-operation with physiologists, psychologists and ophthalmologists who are interesting themselves in this subject.

ABSTRACTS

STUDIES TO SYMPATHETIC OPHTHALMIA. VII. REFRACTOMETRIC INVESTIGATIONS ON THE TRANSMISSION OF SYMPATHETIC IRRITATION. Elschnic, A., Prag., (von Graefe's Archiv für Ophth., 88, p. 392). Wessely measured in rabbits the albumen of the aqueous of the 2nd eye after producing inflammation of the first eye, but could not ascertain an increase of albumen, whence he concluded that in the rabbit no transmission of sympathetic irritation exists. Tornabene and Loewenstein utilized the refractometric value of the aqueous for ascertaining a transmission of irritation.

Elschnic worked out finer methods with which he repeated the refractometric investigations in rabbits, monkeys, and dogs, after he had ascertained that the aqueous of the normal eye, has a constant composition and a constant index of refraction. From his experiments the conclusion could be drawn with absolute certainty that in these animals by acute or chronic irritation of one eye no alteration of the aqueous of the 2nd eye could be obtained which would have become manifest by an augmentation of the colloid content or the index of refraction. Hence there is no transmission of sympathetic irritation in the sense of alterations of the circulation and nutrition of the second eye.

C. ZIMMERMANN.

ON A METASTATIC ABSCESS OF THE SCLERA. Meisner, W., (From the eye clinic of Prof. E. Krückmann in the University of Berlin. Klin. Mon. für Aug. 52, Mai, 1914, p. 708). A man, aged 46, who had been affected, for some time, with furuncles in the arm pits and still had one at the right gluteal region in the regressive stage, had a chill and felt ill. After two days his right eye became inflamed and painful. The upper limbus showed a large diffuse swelling in which an abscess developed in form of a circumscribed yellowish prominence of the size of half a pea. An incision evacuated typical pus with polynuclear leucocytes and staphylococcus aureus. There was also a slight hypopyon and hyperemia of the iris, which disappeared after a week. The metastatic abscess of the sclera was due to the inundation of the blood by staphylococci from the furuncle or from the bladder and prostatic gland, which were in a state of chronic inflammation after gonorrhoea. The urine contained staphylococcus aureus, and shortly before the ocular affection developed the prostate had been massaged.

C. ZIMMERMANN.

THE ORBITOGENOUS ABSCESS OF THE BRAIN AND ITS OPERATION. Elschnig, A., Prag, (Klin. Mon. für Aug. 52, March-April, 1914, p. 359), reports 3 cases. In one the patient was cured by operation, in one the diagnosis was made too late so that opening of the correctly located abscess could not save the patient, in one the abscess was not diagnosed. The orbitogenous abscess is always located in the frontal lobe, as ascertained from literature by Uhthoff, and, as E's observation shows, as a rule so near to the orbital roof, that its opening at this place is the easiest and causes the least lesion of the brain. Its greatest advantage is in avoiding prolapse of the brain and exophthalmus, and if the connection between the tarso-orbital fascia and the periosteum of the orbital margin is not severed and the periosteum if detached from the orbital margin is left intact, the danger of reinfection of the orbit by the cerebral abscess is slight.

In the two cases operated upon the dura and the exposed brain substance at the abscess showed no pulsation, which seems of decisive value, although pulsation does not exclude the diagnosis of abscess. The orbital process leading to the abscess of the brain probably originates in affections of the accessory sinuses of the nose, as in two cases of E. If there is empyema of the frontal sinuses the abscess may be approached through the frontal sinus, but the orbital opening is preferable, as it insures better drainage. The extensive detachment of the periosteum and thus of the trochlea has no permanent deleterious influence on the superior oblique. The localization of the abscess indicates that a direct contact infection of the dura and the frontal lobe by the entrance of microorganisms through the thin orbital roof along the blood vessels or through ostitis leads to the abscess. The orbitogenous abscess of the brain seems at first to cause only slight rise of temperature, but grave cerebral symptoms, (headache, vertigo), and is distinguished from meningitis by the lack of general symptoms and high temperatures. On account of its seat in the frontal lobe there are generally no focal symptoms. The participation of the optic nerve is, of course, a determining factor. C. ZIMMERMANN.

THE MECHANISM OF THE DISINTEGRATION AND ABSORPTION OF THE LENS. Goldschmidt, (From the Eye clinic of Prof. H. Sattler in the University of Leipzig. Von Graefe's Archiv. für Ophth. 88, p. 405). The albumen of the lens consists of alpha crystallin and beta crystallin, both soluble in water, and albumoid, not soluble in water. This can only be absorbed if it is disintegrated into smaller molecules, and if the suspension of these is converted into a colloidal, i. e., true, solution, analogous to the removal of the parenteral depots of albumen, e. g., the pneumonic infiltration. G. studied this experimentally by submitting lenses of oxen, under septic precautions, to dialysis towards sterile distilled water. He found that the resorption of the lens is a merely physical and chemical process with visible symptoms of irritation. The ferment action of the discinded lens is about 60 times as rapid as that of the intact lens. The discinded lens has by its swelling an enormously increased absorptive faculty as to the proteolytic ferment. The slight quantity of proteolytic ferment is accumulated in the discinded and swelling lens, which increases very much the influx of proteolytic ferment into the aqueous. Similarly repeated punctures of the anterior chamber increase the proteolytic ferment of the aqueous. By this ferment the integration of the albumen of the lens into soluble molecules is brought about. A second factor in the mechanism of the absorption are the autolytic ferments in the lens itself. This process can be imitated experimentally. A third factor is the participation of the immigrated elements of the blood, whose proteolytic ferment also serves for the absorption of the swelling lens masses. C. ZIMMERMANN.

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EDITORIALS

AID FOR BELGIAN PHYSICIANS AND SURGEONS.

At the beginning of the war there were in Belgium 4,800 doctors, of these at least 1,000 are now absolutely poverty-stricken, and from 2,000 to 3,500 are suffering cruelly. In a letter from Professor C. Jacobs of the University of Brussels their situation is vividly described:

"Our doctors have not been spared; they, too, are bearing a heavy share of the general suffering. And now long weeks—nay, months—of trial stand before them, during which they know that they will have to bear a terrible burden. They will have to devote themselves untiringly, giving all their care and time, and even their lives, if need be, to the cause of their country; and yet many of them are homeless, deprived of their laboratories, instruments, and their medical stores. What will become of those that still remain of our people, threatened as they are by the grim havoc of war and by contagious disease, its constant follower?

"In anticipation of these inevitable consequences it has become my duty, as the spokesman of my Belgian colleagues, to appeal to the medical and pharmaceutical world that an impulse of international fraternity may come to the aid of Belgian doctors and pharmacists. Is it realized that we in Belgium have suffered and are suffering? Duty, and duty only, has bound our doctors and pharmacists to their posts in the devastated localities; some of them are carrying on their profession in the ruined remains of destroyed buildings, whereas others have to improvise at haphazard any kind of shelter for their Samaritan work. Need I describe the manner in which they sustain themselves, and how they manage to nourish their wives and children?

"I have witnessed such misery amongst them! Some have had to work as navvies in order to have a few pence in their pockets; others have told me that they had not seen bread for a fortnight, but had lived exclusively on potatoes. Others had a meager bunch of straw laid on the ground as a bedstead; the only pair of boots owned by one of them was falling to pieces in tatters. Men I have seen were dressed in torn garments and their children were in rags. One of my colleagues had to live on wayside herbs for three days and three nights, and his wife shared his fate! A professor of a university, bereft of everything, was, when I saw him, in dire want of a bed, and another of equal academic standard was wandering haggard over the countryside, searching in vain for a beloved family. And some of our ranks have been taken as hostages, others have been shot, and their widows and orphans have been left deprived of everything."

An American Committee has been organized to help in relieving the distress of our medical brethren in stricken Belgium, and the following physicians have consented to act as sponsors for the contributions:

William L. Rodman, president-elect of the American Medical Association. John B. Murphy, president of the Clinical Congress of Surgeons of North America. Charles H. Mayo, president-elect of the Clinical Congress of Surgeons of North America. J. M. T. Finney, president of the American College of Surgeons. J. Riddle Goffe, president of Seventh International Congress of Obstetrics and Gynecology. George H. Simmons, editor of the Journal of the American Medical Association. Thomas L. Stedman, editor of the Medical Record. E. W. Taylor, editor of the Boston Medical and Surgical Journal. Franklin H. Martin, editor of Surgery, Gynecology, and Obstetrics. Howard Canning

Taylor, New York. Frank F. Simpson, Pittsburgh, (treasurer).

Contributions can be sent directly to Dr. Frank F. Simpson, 7048 Jenkins Arcade Building, Pittsburgh, Pa., or to the Belgian Physicians' Relief Fund, in care of the editors of the following journals: Journal of the American Medical Association, Medical Record, Boston Medical and Surgical Journal, Surgery, Gynecology and Obstetrics.

The appeal to help the medical profession of Belgium comes at a time when many demands are being made upon us to help worthy causes nearer home, but when we think of the suddenness and extent of the calamity which has befallen our brothers across the sea, and when we try to imagine the difficulties and sufferings they are now enduring, surely we can find something to give to help equip and clothe them until they are once more able to support themselves.

Any contributions sent in care of the editor of this Journal will be promptly forwarded to the committee in charge of the work.

NEEDED LEGISLATIVE ACTION.

The one thing which the members of the medical profession ought to work for harder than anything else with the members of the legislature which is now beginning its work at Madison, is the bill which will be introduced raising the standard of preliminary education of those who wish to undertake the study or practice of medicine.

Before undertaking the study of medicine the student should have two years of work in physics and chemistry of college grade, as these cannot be crowded into the four years devoted to the medical course.

The two medical schools in Wisconsin have placed their entrance requirements high in this respect and it is only fair for the medical profession as a whole to give them cordial support in their efforts to raise the level of medical education in Wisconsin to an equality with that in the states adjoining us on all sides.

In Michigan, in Indiana, in Iowa, in Minnesota, and in the two Dakotas the equivalent of two years of college work is required as preliminary education of those who wish to take up the study or practice of medicine.

This is the standard which has been urged by the State Medical Society at its last two sessions and it is hoped that the bill embodying these requirements may meet a favorable reception by both houses and by the Governor.

But, the legislators have no way of knowing whether the proposed change is good or bad unless somebody tells each one individually. Letters from organizations and from unknown committees are not very effective with the average legislator. But if each one of us tells his own senator and assemblyman what he thinks about it and why he thinks so, there is every reason to believe that the bill will go through without difficulty.

On December 17th, the Committee on Public Policy and Legislation of the State Medical Society called a conference of physicians, jurists, attorneys and social workers for the purpose of discussing the advisability of attempting to amend the act providing for the commitment of the insane and determining upon the advisability of introducing a new bill providing for the commitment and care of imbeciles and feeble-minded. Seventy-five invitations were issued and the following people attended the conference or reduced their suggestions to writing and forwarded them to the Committee: H. H. Jacobs, Rev. C. B. Moulinier, Judge F. C. Eschweiler, Judge M. S. Sheridan, Judge J. C. Karel, C. G. Pearse, president of State Normal School, Christian Doerfler, president of State Bar Assn., Walter D. Corrigan, president of Milwaukee Bar Assn., E. W. Spencer, ex-president of Milwaukee Bar Assn., Rev. Walter F. Greenman, Miss Louise Drury, Miss Edith Foster, Mrs. J. M. Potter, secretary of the Wisconsin Federation of Women's Clubs, Mrs. Carrol M. Allis, Mrs. Katherine L. Van Wyck, secretary of the Milwaukee Associated Charities, Mrs. Proctor Smith, Miss Margaret Friend, Dr. W. F. Becker, M. J. White, Dr. W. F. Lorenz, Wisconsin Psychopathic Institute, Dr. S. B. Ackley, Dr. S. S. Stack, Dr. H. E. Dearholt, Dr. J. J. McGovern, Dr. H. W. Powers, Dr. H. E. Bradley, Dr. Walter Kempster, Dr. Rock Sleyster, Dr. C. R. Bardeen, Dr. L. F. Jermain, Dr. Frank Darling and Dr. W. B. Ford. The discussion brought forth the fact that only minor amendments are necessary to the act providing for the commitment of the insane, but that a new act is required to enable authorities to commit and properly care for the feeble-minded. The committee was assured the active co-operation of the Wisconsin Federation of Women's Clubs in such efforts as may be undertaken to meet the required improvements. A future conference will be had for the purpose of drafting bills.

THE EUGENIC BILL.

It is possible that efforts may be made during the present session of the legislature to amend or to repeal the so-called Eugenic Bill. At a meeting of the Medical Society of Milwaukee County held recently, a resolution asking for its repeal was passed by a large majority.

With the idea which gave rise to this bill the medical profession ought to find itself is sympathy. No one knows better than we do the extent and the gravity of venereal infection. The desirability of limiting its spread must be recognized by all. The only discussion, then, ought to be in regard to the question of methods,—of how the spread of venereal diseases can best be checked.

The examination of applicants for a marriage license is a perfectly reasonable measure in itself. Unfortunately there is no known way of making such an examination infallible or fool-proof. The trouble with the present law is that it attempts this impossible feat. If the authors of the law had been satisfied to accept a statement from the examining physician that he had made a careful examination of the applicant and found him free from evidence of venereal disease, some good would have been accomplished and no great opposition would have been roused. Under such a law some cases of latent infection would of necessity slip past the examining physicians, some would be missed on account of lack of thoroughness or lack of equipment for miscroscopical examinations. Some instances of misrepresentation and fraud would undoubtedly occur. But under such a law the physicians would be able to try conscientiously to cooperate with the state authorities in checking the spread of venereal infection. As much would be accomplished as can reasonably be expected of any measure of this character.

But under the wording of the present law a conscientious carrying out of its provisions is an impossibility for the general practitioner. The medical man knows this even though the Attorney General may not. The result is that the medical profession feels itself constantly imposed upon and resents the demand of impossibilities. Under the existing circumstances it is no wonder that the examinations have degenerated into a mere perfunctory routine in many cases. Nothing else could be expected.

Undoubtedly the discussion of the subject has had an educational effect in the community. Without question there is a more wide-spread knowledge of the dangers, present and remote, which accompany venereal infection. If this good effect is to be maintained, if this law is to be kept on the statute books, and if the co-operation of physicians is desired in making it effective, it is certainly only fair to ask for such a modification of its requirements as shall do away with the conscientious objections of the medical profession.

POISONOUS FLY DESTROYERS.

In the December number of the Journal of the Michigan State Medical Society there appeared an editorial on the subject of Poisonous Fly Paper which was something of a shock to the present writer. Fly traps of various kinds are so common that their possible dangers are apt to be overlooked. We are taking the liberty of quoting the entire editorial:

"There are a surprisingly large number of cases of poisoning of children from one to six years old from the use of arsenical fly poisons. Formerly blotting paper soaked with arsenic was much used. A little piece of this was put in an open saucer with some water and a little sugar. More recently shallow boxes of tin with a wick through the top have come into use, but on account of the habit of children of putting everything to their lips these seem to be as dangerous as the open saucer of poisoned water. In South Africa the authorities have forbidden the sale, except by licensed chemists, of certain arsenical fly destroyers, particularly the tin boxes which have a wick or wicks through which the poison is drawn. The fact that sugar is added to draw the flies makes these boxes especially dangerous to young children.

"From the 1st of July to October 15th the press of a few states reported forty-five cases of poisoning of children from the use of fly poisons, nine resulting fatally within a few hours. In a number of cases the child at the time the report was made was still very sick. In other cases the child was reported as having fully recovered. The reports cover only a few states, so are incomplete. Some cases of poisoning from the use of fly poisons are doubtless never reported, for it is difficult, perhaps impossible, for even an experienced physician to distinguish a case of arsenical poisoning from cholera infantum, the symptoms being so similar. How many children have been poisoned from these

fly poisons and the deaths ascribed to chlorea infantum can never be known. The cases reported are all children from slightly less than a year old to six or seven years old. In many cases these children are not old enough to tell what they have taken if questioned about their illness, and unless seen taking the poison the chances are that the cause of the child's illness will never be known and it will be thought the child had cholera infantum. The danger is especially great to the children of the foreign born, for, as is well known, many of the foreigners are slow to call medical aid in case of children's ailments. In country districts, where it often takes several hours to get a physician, it is especially dangerous to use fly poisons.

"The fly poisons are often exposed on the window sill because flies are attracted to the light. Babies also are attracted by the light and the window sill being in reach is therefore the most dangerous place to expose poisonous fly destroyers of any kind.

"There are as efficient and more sanitary ways of catching or killing flies, and fly poisons, if used at all, should not be used in any home where there are children or where children may visit.

"We have copies of these newspaper clippings on file and will be glad to exhibit them to anyone interested.

"Certainly in our propagandas for health conservation, child betterment and educational movements this peril should be recognized and a warning be issued so that the coming summer does not witness a repetition of these fatalities and accidents that are wholly preventable. Arsenical fly destroying devices are as dangerous as the phosphorus match. They should be abolished."

LOOKING YOURSELF OVER.

Some keen advice appears in an editorial in the "New England Homestead". See if you don't agree:

"It's a good thing at least once a year for every farmer to stand aside and look at his place as if it belonged to some other fellow, and pick out the things this other fellow has left undone. Sticking too close to the work sometimes narrows a man's vision and makes him overlook important things. By going past a pile of rubbish four or five times a day you finally come to think it belongs there, just as a man will sometimes plow around an old stump year after year as if it were established by Divine mandate."

If this is true of the farmer—and we imagine it is—isn't it equally true of every other calling? Why shouldn't the doctor, the lawyer, the minister, the teacher, the business man, the carpenter, the grocer, the day laborer, the butcher, the baker, and the candlestick maker form the habit of checking themselves up thoroughly and mercilessly from time to time? At least every six months one should try to detach his vision from his personality, should put himself under the microscope and profit by what he discovers. And what time can be better than the beginning of a new year?—*Collier's*, Dec. 26, 1914.

CORRESPONDENCE

Dec. 20th, 1914.

Editor Wisconsin Medical Journal:

Referring to the proposed changes in our Medical Practice Act as outlined in the papers and discussions at the last State Medical Society meeting at Oshkosh, there is one point which has not been touched on and which seems to me is very important, and that is that any changes made must be with the view of retaining our present reciprocal relations with other states. It seems to me that if we should let down the bars to the extent that is indicated in the draft of the proposed act submitted, it might be viewed with suspicion by some of the other state boards. It is doubtful if reciprocity would be maintained if the examinations of our board were restricted to the seven subjects enumerated in the proposed act.

Yours truly,

A. J. Provost.

Note—The Committee on Public Policy and Legislation request expressions of opinions on the various subjects in regard to which legislation may be needed and suggestions are cordially welcomed.

NEWS ITEMS AND PERSONALS

Dr. Louis Fuldner, Milwaukee, left on January 6 for a three months' tour that will include Costa Rica, Panama and California. While in Central America he will pay particular attention to trade opportunities.

Dr. L. H. Pelton, Waupaca, retired from active practice Jan. 1, 1915.

Dr. P. J. Christofferson, Waupaca, who suffered an infection of the arm some time ago, and who was reported recovering, suffered a relapse.

Dr. W. E. McFarland of Mazomanie was seriously injured on December 4th, when his automobile turned turtle.

Dr. Anton Zeiss was on December 2, elected county physician for Sheboygan County.

Dr. Thomas Willet, West Allis, has, by the gift of the salary which he earned as superintendent of Greenfield Sanatorium, established a loan fund for ambitious West Allis boys who desire a University education, and who need financial help. The fund of $1,800 has been turned over to the West Allis School Board to be used for this purpose and is to be permanent.

Dr. P. R. Minahan, Fond du Lac, has invented an eyeless needle. It is of the ordinary surgical shape, but instead of an eye for the thread, has a long groove which reaches the entire length of the needle. An outer cap is then screwed over the groove to hold the thread firmly.

Dr. J. A. Hoffmann, has been elected president of the newly incorporated village of Cascade.

Dr. W. G. Melaas, has been elected county physician for the poor for Rock County.

Dr. H. J. Westgate, Rhinelander, met with a painful accident on December 18. While driving to a logging camp near Monico to answer a call, he was thrown out of the buggy when it struck a stump which the driver was unable to see in the dark. A hard fall resulted and one of the doctor's limbs was painfully injured.

At a meeting of the medical staff of the Emergency Hospital, Dr. M. L. Henderson was chosen president, and Dr. Oscar Lotz, secretary. A recommendation was passed that the board of trustees reappoint the entire hospital staff.

Beginning with the second semester at Marquette University, or after January 1st, 1915, the medical course will be increased to six years. All students registering in the department will be required to take two years of pre-medical work and four years in the medical school. Students are also advised to take another year in hospital work, though this is not compulsory.

One ton of medicated cotton was shipped from Madison on December 19 to the Red Cross Society at Brooklyn. This was the response of Madison to Wm. G. Shepherd's appeal.

REMOVALS

Dr. F. R. Hyslop, Watertown to Delavan.

Dr. T. B. Haas, Tomahawk to Grandin, Mo.

Dr. C. R. Cannon, New London to Ellsworth.

Dr. M. P. Ravenel, Madison to Columbia, Mo.

Dr. H. M. Bertram of Lexington, Ky., will locate at Ephraim.

Dr. G. J. Flanagan, of Buffalo, N. Y., formerly of New London, has opened offices at Kaukauna.

DEATHS

Dr. Edward P. Ward, aged 91 years, of Lake Forest, Ill., and for many years prominent as a practicing physician in Chicago, died at the Pennoyer Sanatorium, Kenosha, on December 19th.

Dr. Darwin Stewart of Winona and La Crosse, died after a short illness aged 69 years. He was a graduate of Columbia University, College of Physicians, 1869. He retired from active practice five years ago.

Dr. Frederick L. Foster, Fond du Lac, formerly of Sheboygan, died on December 12, 1914, aged 41 years. Death was due to pneumonia. Dr. Foster was born in Plymouth, June 2, 1873. He resided in Sheboygan until 1883, when he removed to Fond du Lac. He was a graduate of Hahnemann Medical College, 1900. Member of Fond du Lac County and the State Medical Society.

ABSTRACTS

FURTHER COMMUNICATIONS ON METASTATIC CONJUNCTIVITIS IN GONORRHOIC PATIENTS. Davids, H., Münster, (Von Graefe's Archiv. für Ophthalmologie, 87, p. 160), reports, after a review of the incident literatures, a case of metastatic conjunctivitis of both eyes in a man affected with gonorrhea, prostatitis, cystitis, and metastatic pleuritis. At first no gonococci were found in the conjunctival secretions. Then the gonococci were present in the pus of left eye, in which a regular blennorrhea had developed. The case showed with great probability, that severe blennorrhea with positive findings of gonococci may occur endogenously. This possibility must be considered, and in all future cases of blennorrhea in adults attention must be paid, aside from the local changes, to the general condition.

C. ZIMMERMANN.

STRIKING DIFFERENCES IN THE OCCURRENCE OF ANAPHYLACTIC KERATITIS IN VARIOUS SPECIES OF ANIMALS. Köllner, Dr., (From the Eye clinic of Prof. W. Wessely in the University of Würzburg. Archiv. für Aug. 77, p. 289), reports his experiments which showed that the anaphylactic parenchymatous keratitis, at first experimentally created in the rabbit by Wessely, cannot be equally produced in all animals. Except rabbits, only dogs regularly developed keratitis from the solutions of horse, cattle, rabbit serum and albumen of eggs employed and in them it took a more serious course than in rabbits. Cats and monkeys did not react at all, or at least only in single animals changes occurred, in which it was doubtful, whether they had to be considered as local reaction of oversensitiveness.

C. ZIMMERMANN.

EXPERIMENTAL INVESTIGATION ON THE DEPENDENCE OF THE INTRAOCULAR TENSION UPON THE QUALITY OF THE BLOOD. Hertel, E., Strassburg, (von Graefe's Archiv. für Ophth., 88, p. 197), showed in two former communications that the intraocular pressure can be very much influenced by alteration of the composition of the blood, irrespective of the fluctuations of the blood pressure. He now describes in detail his experiments on 80 rabbits into whose jugular or auricular veins he injected solutions of varying concentrations of crystalline and colloidal substances, recording the intraocular tension with the tonometer of Schioetz and the blood pressure. The substances used were: chloride, sulfate, phosphate, bicarbonate, acetate, isolvalerianate, and butyrate of sodium, grape sugar, urea, water, gelatine, albumen, yellow of egg, horse serum, human serum, and transfusion of blood of rabbits. In general the effect of all substances was analogous to that of chloride of sodium: the solutions of higher percentage diminished, those of lower percentage increased, the intraocular pressure. Down to a minimum injecion of 0.025 per kilogram a decrease of pressure, and below 0.016 substance an increase of pressure resulted. Thus the effect merely depended upon the osmotic concentration of the solution, irrespective of the substances. The blood pressure was not influenced or very irregularly. The blood itself and the eyes showed changes of concentration, and diminution of the water content of the eye, which proves that the infused solutions act directly on the eye. In the dead animal the infusion of a solution of sulfate of sodium of 10% and 0.45% increased the tension. The occurrence of edema in other parts of the body of the dead animal suggested that the vitality of the membranes which must be passed is of importance, and pointed to the endothelium of the vessels. By the foreign admixtures the blood is stimulated to regain its constancy through dilution and disintegration. The water required for this is drawn by the blood from the tissues with subsequent decrease of intraocular tension. If an increased influx of water takes place, this will be given out into the tissues with subsequent increase of intraocular pressure, always in concordance with the osmotic laws of interchanges of fluids. This regulating process is lacking if the quantity of the blood is augmented by transfusion of blood, and, as the experiments with transfusion showed, the intraocular tension remains constant.

C. ZIMMERMANN.

EXPERIMENTAL INVESTIGATIONS ON THE ALLEGED COLOR SENSE OF BEES. von Hess, C., München, (Zoologische Jahrbücher, 31, 1), tested by various new methods the prevailing doctrine that the colors of blossoms have an essential importance for attracting bees. He thus showed that the statements of Lubbock, Forel and von Frisch, according to which bees could be trained to certain colors, are erroneous. If different colors, under otherwise equal conditions, are made visible to bees, it is absolutely impossible to train them to, or attract them by, certain colors. So far not a single fact has been produced, which could render probable the assumption of a color sense in bees comparable to ours. Hess definitely disproved this by his former researches with spectral and glass lights, and again by his new experiments with colored papers. Hence the doctrine of Sprengel of the importance of the colors of flowers for insect visitors cannot longer be defended.

C. ZIMMERMANN.

EXPERIMENTAL INVESTIGATIONS ON THE EFFECTS OF ULTRA RED RAYS ON THE EYE. Reichen, Junerg, (From the eye clinic of Dr. A. Vogt at Aarau. Zeitschrift für Augenheilkunde 31, Januar, 1914, p. 20), studied the effect of the relatively short-waved ultra red, which is able to penetrate the ocular media, on the eyes of rabbits. The visible light and ultra violet were extinguished by a solution of iodin-carbosulfide, while the glass vessel absorbed the long-waved ultra red. Seven experiments are reported in detail. They showed that the ultra red rays cause an irritation of the iris of the pigmented eye of the rabbit, evidenced by a contraction of the pupil, lasting for several hours. The irritation of the conjunctiva was very slight. The experiments show a lesion of the cells of the eye analogous to that of monocellular organisms as found experimentally by Hertel. Vogt recently observed that of all parts of the human eye the iris most absorbs the ultra red. R. could not produce an ophthalmoscopically noticeable opacity of the lens or changes of the retina.

C. ZIMMERMANN.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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TERM EXPIRES 1918

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TERM EXPIRES 1919

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TERM EXPIRES 1920

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NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 6-8, 1915.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	M. S. Hosmer, Ashland	C. J. Smiles, Ashland.
Barron-Polk-Washburn-Sawyer-Burnett	G. N. Lemmer, Spooner	A. S. White, Rice Lake.
Brown-Kewaunee	W. Webster Kelly, Green Bay	F. L. Crikelair, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knauf, Kiel.
Chippewa	A. C. Nussle, Chippewa Falls	A. L. Beier, Chippewa Falls.
Clark	H. H. Christofferson, Colby	E. L. Bradbury, Neillsville.
Columbia	O. O. Force, Pardeeville	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	C. S. Sheldon, Madison	L. H. Prince, Madison.
Dodge	R. E. Bachhuber, Mayville	E. S. Elliott, Fox Lake.
Door	H. F. Eames, Egg Harbor	T. C. Proctor, Sturgeon Bay.
Douglas	W. E. Hatch, Superior	D. R. Searle, Superior.
Dunn-Pepin	F. E. Butler, Menomonie	I. V. Grannis, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	J. M Baasen, Mt Calvary	H. C. Werner, Fond du Lac.
Grant	S. W Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	W. J. Pearce, Dodgeville	H. D. Ludden, Mineral Point.
Jefferson	C. S. Carmichael, Helenville	W. A. Engsberg, Lake Mills.
Juneau	C. C. Vogel, Elroy	A. T. Gregory, Elroy.
Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	H. O. Shockley, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	Joseph F. Smith, Wausau	R. W. Jones, Wausau.
Marinette-Florence	E. E. Axtell, Marinette	R. R. Heim, Marinette.
Milwaukee-Ozaukee	R. G. Sayle, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	L. G. Sheurich, Tomah	Spencer D. Beebe, Sparta.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
Outagamie	J. R. Scott, Appleton	F. P. Dohearty, Appleton.
Pierce	D. C. Munger, Ellsworth	R. U. Cairns, River Falls.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	E. A. Richy, Park Falls	G. H. McClure, Westboro.
Racine	Emil Tompach, Racine	Susan Jones, Racine.
Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center.
Rock	E. A. Loomis, Janesville	F. E. Sutherland, Janesville.
Rusk	Julian C. Baker, Hawkins	L. M. Lundmark, Ladysmith.
Sauk	F. D. Hulburt, Reedsburg	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham	H. J. Calkins, Shawano.
Sheboygan	G. H. Stannard, Sheboygan	A. J. Knauf, Sheboygan.
St. Croix	Philip McKeon, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	C. L. Story, Whitehall	G. H. Lawrence Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	E. J. Fuelk, Williams Bay	Edward Kinne, Elkhorn.
Washington	W. J. Wehle, West Bend	S. J. Driessel, Barton.
Waukesha	F. J. Woodhead, Merton	S. B. Ackley, Waukesha
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London
Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. A. Mason, Marshfield	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

ASHLAND COUNTY.

Ashland County Medical Society held its annual banquet and election of officers at Ashland on December 19th. The following were elected: president, Dr. M. S. Hosmer; vice-president, Dr. J. V. Wenzel; secretary and treasurer, Dr. C. J. Smiles.

BARRON-POLK-WASHBURN-SAWYER-BURNETT COUNTY

Barron-Polk-Washburn-Sawyer-Burnett County Medical Society met at Spooner on December 4th. Dr. White of Rice Lake read a paper on "Medical Conditions for Industrial Accident Insurance." Another paper, "Typhoid Medication," was read by Dr. Geo. N. Lemmer. The result of the election follows: president, Dr. Geo. N. Lemmer; vice-president, Dr. G. A. Grinde; secretary-treasurer, Dr. White. A banquet at the Railway Eating House closed the meeting.

BROWN-KEWAUNEE COUNTY

Brown-Kewaunee County Medical Society met at the office of Dr. W. W. Kelly, Green Bay, Dec. 5th. Dr. R. C. Buchanan spoke on "A Clinical Visit to Vienna." A local Red Cross committee was appointed and it consists of Drs. Kelly, Cricklair and J. J. Bellin.

CHIPPEWA COUNTY

Chippewa County Medical Society held its quarterly convention and banquet on December 9th at the Stanley House, Chippewa Falls. A business meeting followed at the club rooms of the Progressive League.

DANE COUNTY MEDICAL SOCIETY

At the annual meeting and banquet of the Dane County Medical Society held at the Avenue Hotel on December 16th, the following officers were elected: president, Dr. C. S. Sheldon; vice-president, Dr. Frank Meade; secretary-treasurer, Dr. L. H. Prince; censors, H. A. Gilbert and C. A. Harper. The business session was called at 6:30, and consisted of the annual reports of officers, election of officers and a discussion on the question "Shall the County Secretary Receive a Salary?" Dr. Wm. F. Whyte made a short speech.

DOUGLAS COUNTY

The annual election of officers of Douglas County Medical Society took place at the Commercial Club Rooms, Superior, December 2. The election resulted as follows: president, Dr. W. E. Hatch; vice-president, Dr. W. H. Zwickey; secretary-treasurer, Dr. D. R. Searle; delegate, Dr. R. H. Lohmiller; censor, Dr. L. Hoffmier.

DUNN-PEPIN COUNTY

The Dunn-Pepin County Medical Society held its annual meeting and banquet at the Hotel Royal, Menomonie, December 8, 1914. The following officers were elected: Dr. F. E. Butler, Menomonie, president; Dr. A. F. Heising, Menomonie, vice-president; Dr. I. V. Grannis, Menomonie, secretary-treasurer; Dr. E. H. Grannis, Menomonie, censor. A committee consisting of Drs. E. H. Grannis, A. F. Heising and N. L. Howison was appointed to investigate and revise the present fee bill.

I. V. GRANNIS, M. D., *Secretary.*

EAU CLAIRE COUNTY

At the regular monthly meeting of the Eau Claire County Medical Society at the Galloway House at Eau Claire, Dr. H. S. Hollenbeck of Bie Angola, Africa, a medical missionary, gave a lecture on "Medical Practice in Africa." He was followed by Dr. Mason of Eau Claire who gave an interesting talk on "Methods of Preventing and Combating Shock."

JUNEAU COUNTY

The annual meeting of the Juneau County Medical Society was held at Camp Douglas, December 15, 1914. Meeting called to order at 11 A. M. by the president, Dr. W. B. Parke. Minutes of the last annual meeting were approved as read. The president, Dr. Parke, delivered an interesting address. Dr. Brand Starnes reported four interesting cases of appendicitis operated upon with obscure symptoms. Dr. T. S. Lawler reported a case of autoinfection of much interest.

At one o'clock the meeting adjourned for luncheon which was served at the Brick Hotel. Meeting called to order at 2 P. M., the president presiding. The following officers were elected for the ensuing year: president, Dr. C. C. Vogel; vice-president, Dr. Brand Starnes; secretary-treasurer, Dr. A. T. Gregory; delegate, Dr. E. H. Townsend; censor, Dr. T. S. Lawler. On motion the Society adjourned.

A. T. GREGORY, M. D., *Secretary.*

LANGLADE COUNTY

Langlade County Medical Society held its annual meeting and banquet with election of officers and transaction of other business at the Hotel Backbone on December 21, 1914. The result of the election is as follows: president, F. V. Watson; vice-president, H. G. Westphal; secretary-treasurer, J. C. Wright; delegate, I. D. Steffen; alternate, J. C. Wright; censor, M. J. Donohue. Dr. E. E. Couch was elected to membership in the society.

LA CROSSE COUNTY

La Crosse County Medical Society enjoyed a banquet and meeting at the Lutheran Hospital on December 11th. At the annual meeting following the banquet, the following officers were elected: president, H. E. Wolf; vice-president, G. W. Lueck; secretary-treasurer, J. M. Furstman; censor, A. Gunderson; delegate, W. E. Bannen; alternate, J. L. Callahan.

MARATHON COUNTY

Marathon County Medical Society met at the Wausau Club, Wausau, on December 10th. Dinner was served at 6:30, after which the following program was given: "Treatment of Prolapse of the Umbilical Cord," Dr. A. F. Harter. "Differential Diagnosis of the Causes of Sudden Death," Dr. R. M. Frawley. "The Shick Reaction in Diphtheria," Dr. S. M. B. Smith. "Medical Economics," Dr. W. F. Zierath.

MILWAUKEE COUNTY

The annual dinner and election of officers of Milwaukee County Medical Society was held at the Hotel Wisconsin on Dec. 8th. Among the subjects discussed were the Eugenic Law, the Optometric Bill, the Method of Committing Insane and admittance of semi-poor patients to county hospitals. The following is the result of the election: president, Dr. R. G. Sayle; vice-president, Dr. F. Pfister; secretary, Dr. Daniel Hopkinson; treasurer, Dr. Wm. Thorndike.

RACINE COUNTY

Racine County Medical Society held its regular meeting at the Racine Hotel, Racine, Oct. 22, 1914. Dr. O. H. Foerster of Milwaukee addressed the society on "A Practical Consideration of Some of the More Common Skin Diseases." Dr. S. Sorenson of Racine exhibited two very interesting cases of skin disease. Dr. G. Windesheim, councilor for the 2nd District was present. There was an attendance of twenty-one.

SUSAN JONES, M. D., *Secretary.*

ROCK COUNTY

Election of officers for Rock County Medical Society took up most of the time at the annual meeting held in the municipal court rooms on December 30th at Beloit. The following officers were elected: president, E. A. Loomis, Janesville; vice-president, F. A. Thayer, Beloit; secretary-treasurer, F. Sutherland, Janesville; delegate, Dr. Pember, Beloit; alternate, E. C. Helm, Beloit.

RUSK COUNTY

At the annual meeting of the Rusk County Medical Society held at the court house, at Ladysmith, on December 19, the following were elected: president, J. C. Baker, Hawkins; vice-president, R. A. Claridge, Bruce; secretary-treasurer, L. M. Lundmark; censor, H. R. Ross; delegate, W. L. Stephenson; alternate, J. C. Baker.

ST. CROIX COUNTY

At the annual meeting of the St. Croix County Medical Association held in the Commercial Club Rooms, New Richmond, officers were elected as follows: president, Dr. P. McKeon; vice-president, Dr. S. J. Phaneuf; secretary-treasurer, Dr. W. H. Banks; censor, Dr. Stickney.

SHEBOYGAN COUNTY

The Sheboygan County Medical Society held its annual meeting at the Hotel Grand, Sheboygan, December 23rd, and elected new officers for the ensuing year: president, G. H. Stannard; vice-president, John Tasche; secretary-treasurer, A. J. Knauf; delegate, J. R. Kingsley; alternate, G. W. Crosby; censor, H. C. Reich.

BOOK REVIEWS

BLOOD PRESSURE: ITS CLINICAL APPLICATIONS. By George W. Norris, A. B., M. D., Assistant Professor of Medicine in the University of Pennsylvania; Visiting Physician to the Pennsylvania Hospital; Assistant Visiting Physician to the University Hospital. Fellow of the College of Physicians of Philadelphia. Octavo, 372 pages, with 98 engravings and 1 colored plate. Cloth, $3.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

Within a few months several books dealing with the subject of Blood Pressure have appeared and have been reviewed in these columns. As in many conditions, the latest is the best, so in this case, the book now before us is quite the best and most trustworthy that has yet appeared.

An enormous literature has grown up around the subject of Blood Pressure and it is not an easy task to cull and separate the wheat from the chaff. Dr. Norris has in a most creditable manner succeeded in his attempt and has given us a volume in which is contained all that is known of importance on this subject.

It is gratifying for the Reviewer to read such statements as these: "Observations of the systolic pressure alone are of relatively little value. They indicate, it is true, the strain to which the arteries are subjected, but the *diastolic pressure*, the variations of which correspond more or less closely to those of the mean pressure, is the real indication of the driving force. Systolic pressure may suddenly vary greatly from many diverse causes —fright, excitement, etc.—but the diastolic pressure is a much less easily disturbed factor and may hence be a valuable criterion in deciding whether organic vascular or cardiac changes are present." "The height of the *diastolic pressure* is often more important than that of the systolic tension. * * * * A constant diastolic pressure of or about 100 mm. indicates hypertension regardless of whether the systolic pressure be 180 or 140 mm."

The book is divided into eighteen chapters. An idea of the scope may be obtained from some of the chapter headings: The Instrumental Estimation of Blood Pressure; Venous Blood Pressure; The Functional Efficiency of the Circulation as Determinable by Blood Pressure Estimation and Allied Tests; Blood Pressure in Acute Infectious Disease; Chronic Disease; Cardiac Disease; Arteriosclerosis; Nephritis; Nervous Diseases, etc., etc.

The text is well written and profusely illustrated with figures and diagrams. To all physicians we heartily recommend this book. L. M. W.

PATHOGENIC MICROÖRGANISMS. (Including Bacteria and Protozoa.) A Practical Manual for Students, Physicians and Health Officers. By William H. Park, M. D., Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, and Director of the Bureau of Laboratories of the Department of Health, New York City, and Anna W. Williams, M. D., Assistant Director of the Bureau of Laboratories, New York City; Consulting Pathologist to the New York Infirmary for Women and Children. New (5th) edition, thoroughly revised. Octavo, 684 pages, with 210 illustrations and 9 full-page plates. Cloth, $4,00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

In the fifth edition of this well-known and deservedly popular work the material has been rearranged in order to bring more closely together all of the pathogenic organisms. Under this arrangement Part I deals with the general characteristics and methods of study of all the microörganisms considered (molds, yeasts, bacteria, and protozoa). Part II includes the study of the individual pathogenic microörganisms and their near relatives. Part III presents certain practical aspects of the subject under the title Applied Microbiology. The nine plates included in this edition have been arranged and drawn especially for this book. Owing to recent advances in the knowledge of microbiology, the authors have added much new material and rewritten several parts of the book. For example, the subject of complement fixation has increased so much in importance that a full description of its nature and its various applications has been given in a separate chapter. The whole subject of immunity has been extensively revised. A new chapter has been written on filtrable viruses. The chapter on the preparation and uses of media has been rewritten, and the recent methods for the use of anilin dyes, as well as other new procedures, have been incorporated. Other chapters which have been extensively changed are those dealing with the streptococcus, the pneumococcus, the diphtheria bacillus, the tetanus bacillus, the hemoglobinophilic bacilli, the bacillus of pertussis, the molds, the amebae, and the chapter on rabies.

The first edition of this book was written to make available for others the practical knowledge which had been acquired in the work of he bacteriologic laboratories of the city of New York and while the subsequent editions have carried the work far beyond its original limits the practical note has never been lost and the volume as it now appears is of pre-eminent value as a practical manual for students, physicians and health officers.

It is a pleasure to be able to give such unqualified commendation as this work deserves.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics, Materia Medica, and Diagnosis in Jefferson Medical College of Philadelphia, Physician to the Jefferson Medical College Hospital. Fifteenth edition, enlarged, thoroughly revised, and largely re-written. Octavo, 922 pages, illustrated with 144 engravings and 7 plates. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

The new edition of Hare's Text-Book of Practical Therapeutics comes to the reviewer as an old and tried friend, well dressed and prosperous looking, and justifiably so, for if fifteen editions and many reprintings in the course of twenty-four years do not prove to both author and publisher a satisfactory degree of popularity, they must indeed be hard to please.

The work is so well known that detailed notice is not required; it suffices to say that it grows better and better with each revision, and the frequent appearance of new editions has enabled the author to keep the volume abreast with the current of progress.

The aim of the author throughout has been to make the book practical. As he says in the preface: "the physician not only wants to know what drugs can do good and how they do good, but he also wants to know how to use them and when to use them so they will do good." The result is a thoroughly satisfactory text-book for both the student and the general practitioner.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph. D., Professor of Bacteriology, in the University of Chicago and in Rush Medical College. Fourth edition thoroughly revised. Octavo of 647 pages, fully illustrated. Cloth, $3.00, net. W. B. Saunders Company, Philadelphia and London, 1914.

Jordan's excellent work, now appearing in its fourth edition, has been thoroughly revised although only two years have elapsed since the third edition was printed. The progress in this department has been so rapid that even this short time has permitted the development of a number of new ideas which Prof. Jordan has incorporated in his volume. A new chapter on the filterable viruses has been inserted and important additions have been made to the chapters on poliomyelitis and whooping-cough, while the bacteriology of strepococcus sore throat is considered in a new section.

In the preface the author states that "this book is the outgrowth of lectures given to the students in the University of Chicago during the last few years," and the result is that the material is presented in an unusually spirited and interesting manner. This adds greatly to the pleasure of reading or consulting a book of this character.

The volume is thoroughly practical in its handling of the subject and closes with chapters on the Bacteriology of Milk and Milk Products, Bacteria and the Nitrogen Circle, Bacteria in the Arts and Industries, the Bacteria of the Air, Soil, and Water, and the Bacterial Diseases of Plants.

MEDICAL JURISPRUDENCE. A Statement of the Law of Forensic Medicine. By Elmer D. Brothers, B. S., LL. B., Member of the Chicago Bar; Lecturer on Jurisprudence in the Medical and Dental Departments of the University of Illinois, and in John Marshall Law School, October, pp. 276. Price, $3.00. C. V. Mosby Co., Publishers, St. Louis, 1914.

It would be well for the medical profession if there were a more general interest among its members in the subject of medical jurisprudence. Some of our members have made their first acquaintance with it through the unpleasantness of a malpractice suit. Possibly if they had known more about the subject beforehand the suit

might have been avoided. At any rate we all ought to know something about it for our own protection.

The volume before us is compact and yet readable and gives a great amount of interesting and practical information on such subjects as Courts and Procedure, Evidence, Expert Witness, Hearsay, Privileged Communications, License, Contractual Relations, Employment and Compensation, Agreement for Surgical Operation, Civil Malpractice, Criminal Malpractice, False Representations, Anesthetics, Insanity, Wounds, Blood Stains, Crimes with Medical Aspects, Statutes of Limitations, etc.

Its value to the practitioner of medicine is obvious.

THE PHARMACY HANDBOOK. By F. W. Crossley-Holland, F. C. S. 224 pages. Price, $2.00. Oxford University Press, Publishers, 35 West 32nd Street, New York.

A compact, well-written volume containing much material of value to the pharmacist. Especially to be recommended are the chapters on Newer Therapeutic Remedies, Serums, Vaccines, etc., Pharmaco-Ethics, and the Pharmacist's Library.

THE TONSILS. By Harry A. Barnes, M. D., Instructor in Larynogology, Harvard Medical School; Surgeon in the Department for Diseases of the Nose and Throat, Boston Dispensary; Assistant Laryngologist, Massachusetts General Hospital, etc. October, 160 pages, with 39 illustrations. Price, $3.00. C. V. Mosby Co., Publishers, St. Louis, Mo.

In this well-written volume the author considers in separate chapters The General Nature of Lymphoid Tissues, The Development of the Tonsils, The Anatomy and Histology of the Tonsils, The Function of the Tonsils, The General Pathology and Bacteriology of the Tonsils and Their Relation to Systemic Infection, Diseases of the Tonsils, Diseases of the Pharyngeal Tonsil (Adenoids), Neoplasms of the Tonsils, Surgery of the Tonsils, Complications and Sequelae of Operations on the Tonsils.

The amount of attention which the tonsils are receiving at the present time is out of proportion to their size but not in the least out of proportion to their importance as a portal of entry for many and varied forms of systemic infection.

This book presents in concise form information which can only be obtained elsewhere by the expenditure of much time and energy in a search through volumes on Embryology, Anatomy, Physiology, and a stupendous array of journal articles. Its welcome by both the laryngologist and the general practitioner should be as warm as it is well-deserved.

DISEASES OF THE SKIN, INCLUDING THE ACUTE ERUPTIVE FEVERS. By Frank Crozer Knowles, M. D., Instructor in Dermatology in the University of Pennsylvania; Clinical Professor of Dermatology, Women's Medical College of Pennsylvania; Fellow of the College of Physicians of Philadelphia, etc. Octavo, 546 pages, with 199 engravings and 14 plates. Cloth, $4.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

This volume, as the author states, has been prepared as a guide for the student and the general practitioner in the study of dermatology and in order to make the work more complete, not only the exanthemata are included but also the acute fevers that are constantly or occasionally accompanied by a dermal outbreak.

The author has preferred to confine his therapeutic recommendations to remedies which he has successfully used and he has emphasized the exact methods of using these applications in a manner which will be most helpful to the general practitioner.

Syphilis because of its importance has been given detailed consideration. The methods of staining the Spirocheta pallida, the exact technique for giving salvarsan and neosalvarsan, their after effects, the Wassermann and the luetin tests are all given in detail.

The classification is clear, the descriptions of the various pathological conditions are compact but adequate, and the illustrations are numerous and well chosen. Typical cases are selected for the illustrations instead of extreme or unusual forms and the result is that the general reader is really helped by them.

The more modern methods of treatment, such as the X-rays, Finsen light, radium, "Snow," therapeutic lamps, vaccines, tuberculin, etc., have been given full consideration, and yet the ordinary methods of treatment upon which the general practitioner must depend in his own practice are not in the least neglected.

To the reviewer it seems that the author has well fulfilled the task which he set before himself to accomplish.

A TEXT-BOOK OF THE DISEASES OF THE NOSE AND THROAT. By Jonathan Wright, M. D., Director of the Department of the Laboratories, New York Post-Graduate Medical School and Hospital, and Harmon Smith, M. D., Surgeon to Throat Department of the Manhattan Eye, Ear, Nose and Throat Hospital; Clinical Professor of Laryngology and Rhinology, Cornell University Medical School. Octavo, 683 pages, with 313 engravings and 14 plates. Cloth, $5.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

In this new work the symptomatology, diagnosis and the topical and operative treatment, are very exhaustively presented. Aside from the usual subject matter it contains special chapters on diseases of the buccal cavity and the tongue, and on the nose and throat in general diseases. Under the first chapter on office equipment and method of examination, special paragraphs deal also with suspension laryngoscopy, esophagoscopy, gastroscopy and local and general anesthesia. A novel feature of the work is the emphasis the authors laid upon the etiology and pathology of disease, largely based on original investigations pursued for many years in the laboratory and clinic by one of them. Hence exceptionally large space has been devoted to the anatomy, histology, embryology and physiology of the upper air passages, which will be especially welcome. The discourse is very clear and is aided by abundant excellent illustrations, and the typographical arrangement splendid for quick orientation, which is further facilitated by a carefully prepared table of contents and index. The valuable book is heartily recommended.

C. ZIMMERMANN.

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ARE PHYSICIANS SQUARE WITH THEIR TUBERCULOSIS PATIENTS?*

BY HOYT E. DEARHOLT, M. D., AND CLARENCE M. CHEADLE, M. D.,

MILWAUKEE.

Introduction.

The generous and courteous reception accorded by physicians, not alone in Wisconsin but elsewhere in the United States, to the paper entitled "The Relation of the Physician to the Tuberculosis Campaign" presented before this society in 1911, has encouraged further study along similar lines. The first report was upon data secured by a sociological student. Notwithstanding great care in checking and in eliminating all doubtful evidence, we have wished to secure further corroboration of our conclusions and such further corrections as could be obtained. Not that endorsement has been wanting entirely. Dr. John Hawes III of Boston conducted a study similar to ours of 1911, the evidence and conclusions of which, in the main, coincided with our own.

The present collection of data was made by a medical man, by one whose prejudices and sympathies are those of a practitioner of medicine. This, it would seem, should refute, in a measure at least, any possible objection that class or professional jealousies, antipathies and want of sympathy and understanding have been allowed to "color the findings".

Conditions Favored Investigation.

To insure an abundance of time for securing the histories, this study was made of the patients resident at the State Sanatorium at Wales. Our cases were consecutive and therefore not selected to prove preconceived opinions. Through the courtesy of Dr. Coon, we had access to the records of the sanatorium, and owing to an emergency vacancy in the staff of physicians, Dr. Cheadle served as a resident assistant for some few months. This favorable circumstance afforded opportunity to secure information of patients in a natural manner, and without explaining the object of the special histories. Our data were thus fairly guarded against statements which might have been "made for publication" by patients of the malcontent type.

We are further greatly indebted to Dr. Coon for much interested personal assistance and for his kindly counsel and criticism.

The Need.

Charges are frequently brought to our notice by physicians, patients and volunteer anti-tuberculosis campaigners, that physicians are frequently most derelict in their diagnosis, treatment, advice to patients, and instruction in the prophylactic measures against the spread of contact infection. As an instance, here is a quotation from Dr. John B. Murphy: "If we were to ask the profession today what disease is most outrageously treated of all diseases that cause a mortality to the human race * * * *, one that every honest medical man must admit is indifferently and outrageously neglected in its treatment, the answer would be tuberculosis of the lungs. In fact it borders on a crime * * * *."

A recent Atlantic Monthly magazine article is interesting also in that it gives currency in non-medical literature to a patient's probably well-founded and certainly convincing criticism of physicians' diagnosis in tuberculosis.

Purpose.

In instituting an investigation, it was our purpose to learn the facts, so nearly as facts are obtainable, concerning the routine practice of a large number of Wisconsin physicians. We wished to know if physicians are square with their patients. We wanted to know if diagnoses were being made with reasonable promptness, and if not, we wanted to secure some line on how much such failure is blamable to physicians and how much to the patients themselves.

We were fully aware of the physician's likelihood of losing patients in consequence of telling them honestly and frankly that they have tuberculosis. We likewise knew that there are physi-

*Read at the Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 7, 1914.

cians whose practices depend upon their readiness to pander to the immediate comfort of their patients' minds, even though it be at the ultimate cost of the patients' lives. But these factors we knew were not enough to account for all of the late diagnosis, for all the maltreated, neglected consumptives. Few patients have the financial means to indulge in the luxury of a debauch in quackery.

Method.

Two hundred patients have been closely interviewed concerning their symptoms, visits to physicians, the measures employed by the latter to arrive at a diagnosis, and the advice and treatment received at the hands of the 451 physicians consulted.*

A total of over 12,800 items has been covered. In some instances an hour was required in questioning and cross-questionng a single patient.

While every effort has been made to secure reasonably scientific accuracy both in the original collection and in the later compilation of data, we are well aware that errors must have crept in. For practical purposes, however, we are confident that our data and tables are sufficiently accurate to merit careful study and attention.

It will be impossible in the time allowed to do more than to touch the high spots. We shall be content if thereby we may excite an interest which will lead to further study (should it be required) to indicate that it is high time for the medical profession to purge itself of any warrant for such defamatory charges as have been, and are being, made against it.

Some idea of the comprehensiveness of this investigation will be given by the exhibit of tables which represent several months of most painstaking labor. We do not even hope, against the competition this programme offers, to secure the amount of time and study that would be required to appreciate their full significance.

Problem and Answer.

To the question: "Why are not consumptives given proper treatment when they should have it?", we are confirmed in the laconic response: "Ignorance, carelessness, evasion!"

And both parties, the physician and the patient, seem to be guilty, and to connive one with the other toward mutual delinquency and deception. As an example, Table I shows that 43 of the 200 patients waited over three months from first appreciated symptoms to first medical consultation. Of 114 who did not consult a physician at once, the average delay was five months and seven days. This delay was probably influenced by ignorance of the significance of the symptoms, together with possible desire to evade unpleasant conviction of a positive diagnosis of consumption.

Further evidence against the patient is afforded by Table XVII in which it will be seen that the average delay from diagnosis to application for admittance to the sanatorium was six months and ten days. How much responsibility is properly chargeable to the patient's ignorance, carelessness and evasion instead of to the failure of the physician to recommend sanatorium treatment is not shown here.

We shall not continue the indictment of the patient in this place. That is for the general public, and our organization is putting forth its utmost and well encouraged effort to make the general public hear.

In our general propaganda, we urge respect for, and confidence in, Medicine. Of physicians we are urging respect for the rights of patients.

Diagnosis—(Incompetency).

The patient is entitled to a reasonably speedy diagnosis; to honest, unselfish treatment and advice. How he sometimes, yes, often, fails to secure his rights, our evidence below will indicate. Table XIX shows that 42 per cent. of the physicians consulted for pulmonary hemorrhage failed to interpret this symptom as almost, if not quite, an absolutely conclusive sign of the disease. To us, this failure offers incontrovertible evidence of professional incompetency since this is the only single positive diagnostic sign we have which will stand alone. Moreover the evidence is exact and is reducible to a percentage basis. Important as it is in proving a high percentage of ignorance or evasion, (42.9 per cent. of the physicians consulted by these relatively few hemorrhagic cases) it is proof of incompetency in but one direction.

Table XXIV is illuminating in showing a comparison in diagnosis of Examining Physician with the sanatorium diagnosis. "Examining Physician," here, means official examiner. It is supposed that for the most part, these official exam-

*Undoubtedly some of these were consulted by more than one patient. We have not attempted to make our records of physicians personal.

TABLE I.

FIRST SYMPTOM TO FIRST CONSULTATION.

Delay in Going to Physician (200 Cases)	Incipient Cases	Per Cent.	Moderately Advanced Cases	Per Cent.	Far Advanced Cases	Per Cent.	Total	Per Cent.
First week	16	41.	54	46.5	16	35.5	86	43.
Second week	2	5.1	7	6.	2	4.4	11	5.5
Two weeks to one month	3	7.7	13	11.2	6	15.5	22	11.
One to three months	9	23.	18	15.5	11	22.2	38	19.
Three to six months	3	7.7	9	7.7	6	13.3	18	9.
Six months to one year	5	12.8	10	8.6	1	2.4	16	8.
Over one year	1	2.7	5	4.5	3	6.7	9	4.5
Average delay, patients not consulting at once	4 mo. 19 da.		5 mo. 20 da.		4 mo. 23 da.		5 mo. 7 da.	
Average delay, all patients	2 mo. 22 da.		3 mo. 1 da.		3 mo. 2 da.		2 mo. 29 da.	

In the fcllowing notes the data included between the horizontal lines will be spoken of as "lines" and that included between the vertical lines as "columns".

This table shows the time from beginning of symptoms to time of first consulting a physician. Doing a little figuring one finds that, adding together the totals in the first four lines, the patients who consulted a physician within three months, that there were 157 of them. This is 78.5% of the total 200 patients studied. The other 43, or 21.5%, waited more than three months before consulting a physician.

The 114 patients (200 less 86) who did not consult a physician at once waited on an average 5 months 7 days, before going to a physician, and the entire 200 patients waited an average of 2 months 29 days.

TABLE XVII.

DIAGNOSIS TO ENTRANCE.

Periods of Delay	Incipient Cases	Moderately Advanced Cases	Far Advanced Cases	All Cases
Average time from diagnosis to application	75 days or 2 mo. 15 da.	177 days or 5 mo. 27 da.	308 days or 10 mo. 8 da.	190 days or 6 mo. 10 da.
Average time from application to admission	42 days	37 days	42 days	39 days
Total time from diagnosis to admission	117 days or 3 mo. 27 da.	214 days or 7 mo. 4 da.	350 days or 11 mo. 20 da.	229 days or 7 mo. 19 da.

This table would seem to set forth the temperamental differences in the three groups of patients. The patients in the incipient class are undoubtedly, on an average, more keenly alive to their own physical welfare than are those of the other groups. Yet the other groups contain many patients of whom this is not true, but they undoubtedly contain a much larger per cent. of the indolent, indifferent type of individuals. This temperamental difference in patients should not be lost sight of in drawing conclusions as to the responsibility for so many patients not being recognized early. It will be noted that the moderately advanced patients waited nearly six months and the far advanced patient over ten months before consulting a physician. This certainly must have an important bearing on the stage of the disease at the time at which it was recognized.

iners are picked men, doubtless considerably above the general professional average. In only 13 per cent. were the examiner's and sanatorium descriptions essentially the same; in one-half of compared cases, the official examiner found signs in but one lung, while the sanatorium recorded signs in both; in 7.5 per cent. of all cases the sanatorium disagreed with the official examiner as to which lung was chiefly affected.

Carelessness (Table XVI).

Failure to examine chest, to take temperature record, and to make sputum examination, we have felt warranted in attributing to carelessness. *In 14.2 per cent. of all consultations, no physical examination was made; in 72.7 per cent. no temperature record was taken; in 52.5 per cent. no sputum examination was made.*

Evasion.

This is an impossible factor to demonstrate fully, but it is obvious in a considerable proportion of our histories. Not to admit evasion in the telling of the patient the exact truth, would require us to increase the number of instances and ratio of carelessness and incompetency.

Before we proceed to other interesting disclosures made by these tables, permit a word of comment in the nature of an aside. We will not dwell, to any extent, upon such startling evidence of incompetence as those figures just cited disclose, but we hope that their importance will not be

TABLE XIX.

PULMONARY HEMORRHAGE.

Mode of Comparison	Incipient Cases	Per Cent.	Moderately Advanced Cases	Per Cent.	Far Advanced Cases	Per Cent.	Total	Per Cent.
Total number histories considered	39		116		45		200	
Number cases of hemorrhage occurring before a diagnosis of tuberculosis was made	4		28		6		38	
Number patients who consulted physician at once on occurrence of hemorrhage	3	75.	23	82.1	2	33.3	28	73.7
Number patients who consulted physician at once and and for whom a diagnosis of tuberculosis was rendered at once	1	33.3	14	60.9	1	50.	16	57.1
Number patients who consulted physician at once and for whom a diagnosis of tuberculosis was not rendered at once	2	66.7	9	39.1	1	50.	12	42.9
Number patients who did not consult physician at once on occurrence of hemorrhage	1	25.	5	17.9	4	66.7	10	26.3
Number patients not consulting a physician at once for whom a diagnosis of tuberculosis was rendered at first consultation with a physician			2	40.	3	75.	5	50.
Number of patients not consulting a physician at once for whom a diagnosis of tuberculosis was not rendered at first consultation with a physician	1	100.	3	60.	1	25.	5	50.
Number of cases in which hemorrhage was the first symptom noted	1	25.	11	39.3	3	50.	15	60.5
Cases in which it was not the first symptom noted but in which it occurred before diagnosis of tuberculosis	3	75.	17	60.7	3	50.	23	39.5

NOTE—By hemorrhage we mean a distinct flow of pure blood. Slight spitting of blood not included.

From this table we learn that of the 38 patients who had pulmonary hemorrhage before tuberculosis had been diagnosed 28 or 73.7% consulted a physician at once and of these 16 or 57.1% obtained a diagnosis of tuberculosis at once. Of the 10 patients who did not consult a physician at once on the occurrence of hemorrhage 5 or 50% obtained a diagnosis promptly when they did consult a physician. From these facts we would infer that only 57% of physicians consider the occurrence of pulmonary hemorrhage as positive proof of the existence of tuberculosis.

gauged by the relatively small amount of space devoted to their specific discussion.

Competent chest examination is too technical and too difficult an art for us to be enabled to recommend a short cut to correct diagnosis by this means. Confirmation, however, is given to the opinion expressed in our 1911 paper that at least as much skill is required to make a diagnosis of incipient tuberculosis as is required to open an abdomen for a surgical disorder. We are encouraged to urge further upon general practitioners more frequent and less embarrassed consultations with internists whose ears are atuned by daily practice, and whose judgment is clarified by abundant experience.

But what can be said of a failure to employ the clinical thermometer and the sputum examination? A temperature record requires but a thermometer, a scrap of paper, a stub of a pencil and a ridiculously small amount of routine attention. Its significance is out of all proportion to the amount of time and care it takes. A sputum examination

TABLE XXIV.

COMPARISON OF DIAGNOSIS.

Showing Comparison of Diagnosis of Examining Physicians with those of Sanatorium Physicians.

Method of Comparison	Incipient Cases	Per Cent.	Moderately Advanced Cases	Per Cent.	Far Advanced Cases	Per Cent.	Total	Per Cent.
Cases in which descriptions of lesions were essentially		25.6*		6.			17	8.5
the same and classification the same	10	41.6**	7	8.3				13.5
Cases in which descriptions of lesions were essentially		2.5		6.		2.2		4.5
the same but classification different	1	4.1	7	8.3	1	5.5	9	7.1
Cases in which examining physician found lesions in		17.9		42.2		28.8		34.5
only one lung but sanatorium physician in both lungs.	7	29.1	49	58.3	13	72.2	69	54.7
Cases in which examining physician found lesions in		15.4		1.7				4.
both lungs but sanatorium physician in only one lung.	6	25.	2	2.3			8	6.3
Cases in which diagnosis as to lung chiefly affected		5.		44.8		26.8		35.
agreed	2	8.2	52	61.9	12	66.6	70	82.4
Cases in which diagnosis as to lung chiefly affected		5.		8.6		6.6		7.5
disagreed	2	8.2	10	11.9	3	16.5	15	17.6

*Based on total number in group. **Based on number compared.

DATA RELATED TO OR EXPLANATORY OF TABLE XXIV.

Total number cases in which diagnoses were compared above	24	84	18	126
Number cases in which diagnosis could not be compared.	2	18	22	42
Cases in which examining physician stated no diagnosis.	2	3	4	9
Cases in which examining physician could find no lesion.	5	1		6
Cases in which entrance examination was made at sanatorium	6	10	1	17
Total number cases included in study	39	116	45	200

The numbers in this table may be confusing if one tries to harmonize totals. It should be remembered that some diagnoses fell into more than one classification so that the total of the several classifications will exceed the actual number of diagnoses compared.

This table would seem to show about the degree of efficiency of the better element of the medical profession, the state examiners for admission to the sanatorium, in making exact physical diagnosis. In more than one-third of all cases (34.5%), and more than half of the cases compared (54.5%), the examining physician found the trouble confined to one lung, whereas the sanatorium physician found trouble in both lungs. In 7.5% of all cases and 17.6% of cases compared the diagnosis as to the lung chiefly affected disagreed. One wants to remember, too, that these physicians were examining patients in whom a diagnosis had been rendered, many of them with positive sputum findings. In six cases the physician could find no lesion whatever.

requires nothing but a large-mouth bottle, a Hygienic Laboratory blank, a postage stamp and a few moments of exceedingly simple clerical work. While a negative examination may be valueless, positive sputum is final.

In contemplating our tables and our case histories, we who have dreamed of diagnosis of incipient disease may be forced to count diagnosis of open, bacillary, advanced stages a great advance over our present attainments.

Upon the subject of faulty diagnosis, no table is more interesting than XXII, showing that of the 142 instances in which a wrong diagnosis was given, in 52.1 per cent. the seat of the disorder was placed outside of the chest. This should afford a danger signal against slipped diagnoses. It would almost seem to be more safe to guess "tuberculosis" than any other constitutional disorder.

And of evasion, what can we say of the physician who is so lacking in moral and professional courage that he "hasn't the heart" to tell a patient an unpleasant truth which the patient must know if he is not to be murdered by a subtle, insidious and exceedingly treacherous disease? Such "kindliness" is suggestive of that of the assassin who strikes down his victim in the dark because he can't bear the sight of the blood that is shed.

Accept the statement that it takes no great amount of moral courage to tell a patient he has tuberculosis if one knows how to do it. With ever so little skill, a patient can be made to react favorably by the knowledge, and to reach a state of exaltation which is a most delightful relief from the vague, uncertain apprehensiveness caused by the existence of an unnamed, unexplained, serious disease.

We regret that we cannot dwell upon the significance of each table; the manner in which most of them are correlated; how our studies have brought the symptom of "loss of appetite", for example, into greater prominence than we have hitherto given it; upon the occupations of patients; upon the attempts to trace the errors in diagnosis, etc. Time is growing short and we must present a few suggestive histories. Did space permit, we should like to include a large number of histories, each one illustrative and instructive. We must be content with a few selections which have been stripped to mere sketch outlines.

Case 25. Patient with hemorrhage, loss of strength, persistent cough and pain in chest; was told by Dr. B. that "any healthy man might have a hemorrhage".

Case 59. Beginning in 1901 with loss of

TABLE XVI.

METHODS OF DIAGNOSIS.

Physical Examination, Temperature Record and Sputum Examination.

Consultations.	Incipient Cases	Per Cent.	Moderately Advanced Cases	Per Cent.	Far Advanced Cases	Per Cent.	Total	Per Cent.
Number tabulated herein	92		251		108		451	
In which physical examination was made	80	87.	219	87.2	86	79.6	385	85.3
Not made	11	12.	31	12.3	22	20.4	64	14.2
No record	1	1.	1	.5			2	.5
In which temperature record was taken	14	15.2	32	12.7	6	5.5	52	11.5
Not taken	63	68.4	174	69.3	91	84.2	328	72.7
No record	15	16.4	45	18.	11	10.3	71	15.8
In which sputum examination was made	33	35.7	108	42.8	45	41.6	186	41.2
Not made	41	44.5	138	55.	58	53.7	237	52.6
None present	16	17.4	5	2.2	5	4.7	26	5.7
No record	2	2.4					2	.6

NOTE—In 25 instances the chest was not bared in making a physical examination.
This table includes the records of 31 consultations not recorded on the big charts.

This table shows the frequency with which physicians used the three most important means of diagnosis, physical examination, temperature record and sputum examination. Of the 451 consultations tabulated, a physical examination was made in 385 or 85.3%; a temperature record was taken in 52 or 11.5%; a sputum examination was made in 186 or 41.2%.

strength, appetite, and weight, shortness of breath and pleurisy, was treated by Dr. A. for five years, during which time about ten physical examinations were made—no sputum examination, no temperature record—diagnosis "catarrh of lungs". No intimation of possible infectiousness. In 1909 with addition of persistent cough, "spitting of blood" and hoarseness, Dr. B. was consulted. Told patient her lungs were "bad", and others that she had tuberculosis. Gave drugs and advised country. Following year was told lungs were "bad" by third physician who treated her for a year and told patient disease was not infectious but warned others; finally recommended sanatorium treatment, at least 11 years after probable onset.

Case 63. Pregnant; was told pulmonary hemorrhage was due to pregnancy. Two years later was examined through clothing and told her lungs were "bad". No explanations given. Three months later Chicago specialist advised santorium. Patient was then in an advanced stage with no hope of recovery.

Case 72. Teacher, with loss of appetite, strength and weight, persistent cough, fever, pain in chest and disturbed stomach; received diagnosis of "grippe", from Dr. A. Hemorrhage one month later. Four months later sputum examination negative. No physical examination made. During next six months one physical and three negative sputum examinations made. Third physician found sputum positive; recommended sanatorium. Patient entered in moderately advanced stage after wasting 22 months.

Case 75. Suggestive of possible house infection. She and room-mate occupied room previously occupied by dying consumptive. Room-mate dead—patient soon will be.

Case 87. With classical symptoms was treated three years for throat irritation. Second physician recommended sanatorium which was entered by patient in moderately advanced stage.

Case 105. With classical symptoms including night sweats, patient by his own demand for sputum examination, changed diagnosis from bronchitis to tuberculosis.

Case 142. Classical symptoms led to first physician's diagnosis and treatment of laryngitis. Second physician "long uvula". Third physician passed him for life insurance a week before patient himself had positive sputum examination made.

Case 145. Ten year history. First diagnosis "just a cough", no examination. Second physician,

TABLE XXII.

CLASSIFICATION OF DIAGNOSIS.

WHAT THE DOCTOR SAID (416 Consultations)	Incipient Cases	Per Cent.	Moderately Advanced Cases	Per Cent.	Far Advanced Cases	Per Cent.	Total	Per Cent.
Tuberculosis	44	56.4	139	56.5	52	55.9	235	56.5
Something else	23	29.5	90	36.7	29	31.2	142	34.1
No diagnosis stated	11	14.1	16	6.8	12	12.9	39	9.4
Conditions within the chest (68 times or 47.9%)—								
Pleural affections	3		9		2		14	
Bronchial affections	5		14		4		23	
Asthma	2				2		4	
Some indefinite chest trouble	3		8		1		12	
Other conditions (pneumonia, hemorrhage, etc.)			13		2		15	
Condition without the chest (74 times or 52.1%)—			7		5		12	
Throat affections								
Colds, catarrh, etc	2		12		6		20	
Digestive system	3		1		3		7	
Nervous system	2		2				4	
Anemia and weakened conditions	1		2		1		4	
Miscellaneous affections	2		14				16	
Nothing found wrong			8		3		11	

NOTE—This table shows that the 142 instances in which physicians stated a wrong diagnosis 74 or 52.1% stated the trouble to be something outside the chest.

"touch of pneumonia," partial examination without baring chest, no sputum examination. By time of consultation of third physician, symptom including hemorrhage had become definite—diagnosis "lung trouble" without explanation and warning. Fourth physician; treated patient eight or nine months for pain in "muscles and nerves of chest". Examination was made through clothing. Patient was in improved condition for four years. Fifth physician's diagnosis "bronchial catarrh". Sixth stated it was not "lung trouble" and treated her without definite diagnosis for eight or nine months. No physical examination until after several months' treatment. Seventh recommended sanatorium but evaded statement of diagnosis. None of seven physicians in ten years of consultations made sputum examination or temperature record.

Case 155. In 1909 received gargle for "granulated throat". Year later second physician treated throat. Third physician advised sanatorium treatment which was refused. Two years later fourth physician, without sputum examination, stated diagnosis "catarrh of throat". Two years later, fifth physician made a two-hour negative search of sputum; diagnosis "chronic rheumatism-sore throat"; restricted diet and prescribed phylacogen. Sixth physician on physical examination, without sputum diagnosed "incipient tuberculosis". The official examining physician described "slight lesion of upper apex of right lung"; sanatorium description "extensive infiltration of both lungs with cavity in upper lobe of right". The case was classified: Far Advanced, Turban III.

Conclusion.

If it has seemed that in the foregoing we have anywhere been too drastic in our strictures of the medical profession, let us repeat that the reporters are both physicians and as such, are likewise compelled to hang their heads in shame over such blame as is laid at the door of the medical profession.

Besides which, we would perhaps not have the courage to present our evidence, were it not for a consciousness that the worst offenders are not likely to be in attendance at this meeting. Further, be it understood that the consideration is never lost sight of in the organization which financed this study, that it received its original conception and inspiration, and now receives a large measure of its present support, from the same medical profession.

And finally, we hope that something big and adequate may be done; that some practical measures for the reformation of medical practice will be instituted and prosecuted by the profession.

To this end the Wisconsin Anti-Tuberculosis Association offers financial and other assistance to this society in any effort that may be made to root out carelessness, incompetency and evasion from the practice of Wisconsin physicians.

DISCUSSION.

Dr. T. H. Hay, Stevens Point: This paper of Dr. Dearholt's needs no commendation, but it is inconceivable that after ten years of this campaign of education that has been carried on, any member of the profession should be as ignorant as the report suggests.

From my own personal experience I can say that nine years ago it was a very common thing for so-called incipient cases to be sent in to us with large cavities in the lungs, and in many instances practically the whole larynx gone.

I do not believe that the medical profession is dishonest. If they are not square with their patients they certainly would be dishonest. If they hold themselves out as practitioners of medicine and offer the real goods to the laity, then they should produce the goods, or else they are dishonest. I do not believe that there is a very large percentage of dishonest men in the medical profession. I do not think that there is as great a percentage as there is in other lines of work, and I have always taken that stand. I agree with a friend of mine, who stated that he was delighted to associate with medical men of his own kind, as he expressed it, because they were brave men; and brave men are not dishonest and never can be. And so I believe in the medical profession.

But there are a lot of slovenly men in the medical profession, men who are more or less indifferent in their work, not only to the medical profession but to the people with whom they deal.

Since the time is short, and I want to observe that five minutes is a very short time, entirely too short to discuss such a paper as this, I will only make one comment in passing, and that is, the time to treat tuberculosis is in its incipiency, if we would get success and good results and perfect cures. It is not the time to tell a man that he has tuberculosis and begin to treat it when the undertaker is chasing him about the streets to hand him his card, or with a tape line in his hand to measure a box. Any fool can make a diagnosis of tuberculosis at such a time. The time to make a diagnosis is before there are bacilli in the sputum. And we must not rely necessarily upon a physical examination. It is a fact that the majority of general practitioners do not have the opportunity to become expert in physical examination of the chest; and there is some excuse for that, and for the mistakes which are frequently made when the diagnosis is based upon physical examination alone, as it is in many instances. So it is better to avoid the routine practice of making the diagnosis on physical examination alone. The doctor has referred to

these hemorrhagic cases. I know that in many hemorrhagic cases of tuberculosis there are practically no physical signs to be found in the chest. I also believe from experience that only about one case of hemorrhage from the lungs in a thousand is due to any other cause than tuberculosis. That has been my own personal experience, as I look it over to-day. There has been just one case that I know of in practically 1,000 cases of hemorrhage, where the hemorrhage has been due to anything else than tuberculosis of the lungs. I have known cases which have gone a full year, with repeated hemorrhages, where the patient was told that the hemorrhage came from the throat and not from the lungs. I have one case under observation at the present time that had over 70 hemorrhages in the course of 2½ years, was seen by almost as many physicians, and no diagnosis of tuberculosis made. There was a very small area of involvement in the right lung, posteriorly, between the midscapula and the spinal column, and that was all that was to be found in that chest for two years and a half.

Make your diagnosis early, and give your patient a chance. And when you treat a patient, treat him honestly. If you are going to treat him, give him the very best. If I were to suggest anything that the physician should properly do to successfully handle his patient, it would be to first put him to bed, if for no other purpose than to have time to look up the subject of treatment of tuberculosis and find out how it is properly treated. Do not let a man with a death-dealing disease go about the streets, hanging out at the corner grocery store or bumming where he pleases, going to the theaters, bowling alleys and other places, as I have known them to do until 11 and 12 o'clock at night, and finally, after several months of that, tell him that he has tuberculosis and should be put under a strict method of treatment.

Make your diagnosis early, and make it upon your history, and not necessarily upon physical signs, and you will get better results in the treatment of your cases, and will get more credit for yourself.

Dr. M. R. Wilkinson, Oconomowoc: As a general practitioner this is a subject in which I have been interested in twenty-one years of work, and I will say that the findings of physicians differ very much, in pronounced cases which I have treated, and which have sought consultation elsewhere.

One patient was told that he had no tuberculosis; that he had lung trouble. In another case the physician told the patient that he had stomach trouble.

It has been my practice in cases of continued fever, taking cold, or anything of that kind, in which the temperature persisted for any period beyond a week to have the sputum examination made. Or, having a purulent sputum following pneumonia, we have the test made. We do not always find that we have tuberculosis when we have a purulent suptum, but always regard it as the only safe procedure to have the test made.

To diagnose tuberculosis early is oftentimes a difficult matter.

I have heard that one man from an institution has said that a safe course in all cases of fever due supposedly to cold, continuing for a period longer than a week is to pronounce it tuberculosis, or even to so pronounce it from the outset. I consider that to be a cloak behind which he seeks to hide. I believe that it is much better to be frank and square with our patients and say that we do not know as yet whether there is tuberculosis or not. I believe that honesty is the only star which will guide us in our work, and if we follow it, even if we err, as we sometimes will, we will not often go astray.

This same charge against the medical profession on this subject can be made on almost every other subject with which we deal. We find the surgeons accused of performing unnecessary operations, and we find that lack of knowledge on the part of the physician is covered up with general remarks, such as catarrh of the lungs, and similar remarks. But in our work of the future I think we will do better than has been done in the past. And the only redeeming feature that I can see in Dr. Dearholt's paper is this, that it represents work of the past, and I hope that five years hence, if another investigation is made, the report will be of a different character.

Here is another question: Do we as human beings possibly weaken when we recall the saying of the famous circus man that, "The people like to be humbugged." Some people do not want the truth. I can remember of pronouncing one case tuberculosis, and I was immediately discharged. Another physician was called and pronounced it pneumonia. The patient lived for a year or two afterwards, but the family never had any further call for my services. I did not feel very pleasant about it, because I knew I was right. I can remember another case of acute tuberculosis running a high temperature, a widowed mother of five children. She asked me if she had consumption, and the very next moment, before I had time to reply, said, "I would not like to know it if I had it." What could I do? I simply did not reply to her question, but I told her relatives that she did have it. There are times when, for humanity's sake, you cannot strike the crushing blow of telling them in a frank manner that they have tuberculosis, although giving them the best help that you can.

I am of the firm conviction that once a case is diagnosed as tuberculosis, the only treatment is institutional treatment. It is not alone treatment, it is education. What physician single-handed can educate a patient? I frankly admit that I do not feel fully equipped, and that I have not the time, to thoroughly educate a patient to care for himself at home. And I have heard Dr. Ball, formerly superintendent of the State Tuberculosis Sanitarium at Wales, say that even though a man does know it, as he himself would know it, that he will not carry out the treatment at home as he will in an institution. And I am therefore, of the firm conviction that the only place for a tuberculous patient is in an institution.

Dr. L. M. Warfield, Milwaukee: It seems to me that this paper of Dr. Dearholt's is the strongest argument that can possibly be made for advanced requirements in medical education. I do not think that anyone will doubt for a moment that we need advanced medical

education in order to make men see what it means to diagnose pulmonary tuberculosis.

There are two or three points that I desire to touch upon here.

I believe that entirely too much stress is laid upon the examination of the sputum. I say this advisedly. Too much stress is laid on the examination of the sputum. If we are to wait before we diagnose our cases of pulmonary tuberculosis until a laboratory, or we ourselves can find tubercle bacilli in the sputum, we have, in a great percentage of the cases, lost the most valuable time in the treatment of pulmonary tuberculosis. I believe I will be affirmed in that statement by the men who are doing sanitorium treatment. Therefore, I think that we should make our diagnoses irrespective of sputum examination. I do not mean to say that sputum examination should not be made, but I do believe that these sputum examinations are simply part of making a diagnosis of tuberculosis.

Now I have said this before, and I say it again, that I think that the diagnosis of incipient pulmonary tuberculosis is one of the most difficult diagnoses in medicine. A patient comes with a little complaint that he really scarcely recognizes as such; he does not feel quite well, and he wants you to tell him why. And most of the time, Gentlemen, in my experience, he is anxious for the truth; he wants you to tell him whether or not he has tuberculosis. And I am here to state that that is one of the most difficult things that I am called upon to do, to tell a man in the early stages, at the time when it is most necessary for him to know, whether or not he has incipient tuberculosis.

I do not think we can spend too much time in making the diagnosis. There is nothing known to medical science that we should fail to do in order to make the diagnosis on this individual, even if we have to spend days and weeks, as you some times have to do to make your diagnosis. And when you have made your diagnosis, tell your man what is the matter with him. And if you are still in doubt I am of the opinion that it is better on the whole to err on the safe side and tell that man that he had better take treatment at a sanitorium for a while, than to make a doubtful case one of advanced pulmonary tuberculosis. I believe that the people do want the truth; and I believe that if a patient presents himself to a physician, seeking a diagnosis, although he may think and may even tell you, that he does not want the truth, nevertheless that is what he has come for. He would not come to you unless he wanted a diagnosis. He does not come to you just to hear you talk about various subjects in which he is not interested. He wants to know what is the matter with him. And I believe there is no person who cannot be told frankly and fearlessly and kindly just what is the matter with him when he presents himself to you for examination.

Dr. J. M. Beffel, Milwaukee: I think that Dr. Dearholt's paper, and the remarks which have just been made bear out the statements which were made earlier of the necessity for greater and more extensive work along the lines of preliminary education. I think there can be no doubt about that. But I feel that we must go even further than that, and follow out the suggestions and examination of Dr. Van de Erve in his individual work at Marquette for the past two or three years. He takes the students of that college, man after man single handed, and when he gets through there are probably twenty-five per cent of the men of a class that have been eliminated, simply because they have not the ability and have not shown the qualifications of a physician. And I think we have got to get to that point in our medical schools. I will go further and say that we have to do something different than we have done so far. If this is the impression, and I think it is Dr. Dearholt's, that the state of Wisconsin is to maintain a sanitorium at tremendous expense, and counties like Milwaukee are spending almost a million dollars in erecting a tuberculosis sanitarium, and Chicago two millions for a great sanitarium, and is going to spend a million dollars a year for the maintenance of a sanitorium, the time has come when we as a state must start work along certain lines. I would suggest this: in the practice of obstetrics we find such and such things were necessary, and we have made a demand that every man who comes from a medical school must come to us having a certificate that he has had six cases of obstetrics under so-and-so, and with the name of the professor under whom he has had these cases delivered. I would contend for something on the same line in connection with the work that Dr. Warfield is doing at the hospital, and other men, and that men like Dr. Warfield shall certify that Mr. A, B or C has had under me sufficient training in these particular lines. And I am for having a ruling—and the Board has perfect power to do this—that men shall have at least five or ten cases of chest examinations in pulmonary tuberculosis, before coming before the State Board of Medical Examiners. Then I think we will get somewhere. The truth is, that the men have not had adequate training. As Dr. Warfield says, it is difficult for him; if it is difficult for Dr. Warfield, it is more difficult for the average man who comes up for examination. I think we might take a little step along this line. I would suggest that our state board may do this, and it appeals to me as never before: we might take this attitude and step in connection with obstetrics, and we might just as well take it now, and also in connection with pulmonary diseases. This is along the line of the practical work we ought to do in State Board examining work. We ought to examine men in practical lines if possible. A day or two days or two days and a half of work in examining an applicant for a license is an insufficient time. We ought to have a longer time, and as we cannot do this, we must therefore rely on the certification of men that this work has been done, not only that they have passed the general examination, but have done these special things which are so essential.

Dr. H. L. Gilbert, Madison, Wis.: I appear before you as a living example of the medical examiner for Wales, about whom Dr. Dearholt has said such uncomplimentary things. I wish that he had made his remarks about those examiners a little stronger, and I hope that those remarks will do a great deal of good.

I believe the reason for the disparity in the findings

of the examination report between those made at Wales and those made by the physician are, in a measure, at least, due to the fact that some physicians only examine their patients in a very cursory way, and some, I am ashamed to admit, do not examine them at all. However, there may be extenuating circumstances in this disparity of the findings. I have examined patients that were accepted for Wales and not admitted for at least three months after this examination had been made, and I do not know the condition of the patient when admitted. I do know what it was when they left my hand, but what the condition then was, I have no means of knowing.

Another thing, as to the examination of the sputum: within the last few months I examined a patient for Wales, and I could not find any physical symptoms in the lung; I could not make any sputum examination; I made the von Pirquet test, which was positive. The patient was examined and accepted, and was supposed to be taken soon. She was not taken for three months. I do not know what her condition then was.

But be that as it may, it does not excuse the medical examiner from any carelessness which he has been accused of. And in this connection I should like to call attention to a duty which ultimately we will be called upon to perform and which has not been touched upon today. I have seen supposedly arrested cases come back from Wales, and go from bad to worse, and they become a living menace to the community in which they are. I know of one case at Madison today, that of a man who came back from Wales and is now running a public auto livery. He houses in a garage, and mixes up with his cohorts there, and is actually the filthiest proposition allowed to walk around. As a result there have been two other cases of tuberculosis reported from this garage, one being the washer of the cars at night, who is still at work. I have told the nurses about the place, but they seem to be afraid to do anything. I have also reported the matter to the health department, and that department says that there is no law which can compel that man to get out of there; that he is trying honestly to make a living, and they cannot do anything. In connection with our duty to make the examination as early as possible, it seems to be we have a greater duty in taking care of those people whom we cannot reach easily.

Dr. G. J. Kaumheimer, Milwaukee: There is one point Dr. Dearholt has not touched upon, and that is the unfortunate mental attitude of the patients. I remember Dr. Hay telling us at one time how some of his patients who were paying for their care would swallow down one glass of water after another, in order to fool Dr. Hay about the temperature. These people do not tell the truth, and I do not believe they told Dr. Dearholt the truth. They will come to you and say, Dr. So-and-So wanted me to take off my corset and everything, and I flounced out of his office. I signed a death certificate about six months ago, and when I was first called to see this patient I was surprised at her condition, and asked if she had not had medical treatment. The reply was, "not for the last eighteen months, just before my baby was born." I reported this case to the tuberculosis nurse, and was told that she had had three physicians in that time, and each of them had reported the case to the Health Department. And by comparing notes, I learned that one physician had seen her three days before I had. We know that up to the very last, when these people are hardly able to stand on their feet, they will insist that they are going to get well. All of us who are in general practice have had people whom we have told they have tuberculosis, and they will flounce out of the office; others whom we have told to use separate dishes will reply, "Why, I haven't got anything catching." Lots of them would feel less hurt if you told them they had syphilis or gonorrhea. I have had such patients, and I do not doubt that you have all had them.

The fact is that these patients are not square with the physician, and I do not believe they tell the doctor all these things when they get out to Wales. After they have got to Wales they know they have tuberculosis, but they are not going to confess; they make fools of themselves and deceive the doctor.

Dr. Hay advises not to let a man go out, but to put him to bed. If a man comes in with a little indisposition, says he feels bad, and you say, go to bed for two weeks, he will ask "What for? I will lose my job." You say, "I want to take your temperature;" and he asks, "Why do I have to stay in bed two weeks to have you take my temperature?" How many of us, if we went to some other physician and asked for an examination, and were told that we had better go to bed for two weeks, would want to do it. We would immediately ask, "What is going to become of my practice in the meantime?" Isn't that a fact? For that reason, that kind of advice, while it is ideal and perfect, is practically impossible.

My experience with tuberculosis is that the patient is not square with the doctor. They will lie about what some other doctor has told them, and they will not follow your advice. I guess I have half a dozen sputum bottles out that have never been returned. Just as soon as you hand them a sputum bottle they go to somebody else and get treated for what the layman supposes is catarrh.

Dr. W. H. Neilson, Milwaukee: Dr. Kaumheimer has almost taken my words out of my mouth. I can endorse everything he has said. He and I have fought together upon the north side in the city of Milwaukee, amongst the people there, and we have had almost identically the same experiences, and I know that these patients will lie, and I know furthermore that they think that you will take kindly to their telling some wrong story about your colleague. They believe you will be pleased if they say that some doctor was careless in examining them. They believe that will please us, and they will tell us those things. I think, if Dr. Dearholt sifts down his figures a little, you can get nearer the truth. I do believe, however, that his paper is going to do a great deal of good in making us all more careful in our examinations. But the fact does exist that tuberculous patients are notorious for lying. I believe they are deteriorated mentally as well as physically.

Dr. E. H. Townsend, New Lisbon: Believing as I do in the refinements of physical diagnosis, a subject which has not been touched upon, I wish to tell you, as members of this medical society, what has been my routine. If a patient comes to me who is losing flesh and losing appetite, is tired in the morning, and whose sleep does him no good, who is flushed, who has intercostal neuralgia, I know that it is some wasting disease, either of malnutrition or of the kidney, or of a tubercular character. It is my custom to look at their fingers, and to look at the roots of their teeth and see if they have a red line around the gums, and to ask them their occupation, and their family history, as to whether they have any history of tubercular infection in their near relatives or in their surroundings. Then I make it a routine to always take the temperature every evening, to see if they have a rise of temperature, which is common a long time before we find the tubercular sputum. I also make it a routine to count their pulse, which is always rapid in the evening, if it is not rapid in the morning. Then I inquire if they have night sweats. And if I find those symptoms, I know I must look this lung over, and I look it over very carefully, and many, many times I cannot find any trace of tuberculosis, and I look them over many times. I remember a patient that I looked over, and made a diagnosis of tuberculosis, and one morning when I went to the house there was a strange doctor from at least 100 miles away, who had formerly treated the patient when they lived in the southern part of the state. This doctor said to me, "I took the liberty of looking over your patient, doctor, and find that she has liver trouble." As he wanted to make a train, he asked me to take him to the train, and on the way I said: "Doctor, you are an older man than I am—" this was 10 or 15 years ago—"but I know that girl has not got liver trouble; I have examined her daily for a month, and I know she has some form of tuberculosis, and told the mother she had." I told him also to take her down in his vicinity and treat her, and he did. One day I met Dr. Ladd, of Milwaukee, who said, "I saw a patient of yours down here the other day in my neighborhood." I said, "You did?" I don't know of any patient down here." He replied, "Oh, yes, I saw Miss W." I asked him what he found. "Well," he said "she is dead, doctor; she died of tubercular meningitis."

Dr. J. J. McGovern, Milwaukee: To be on the side of the general practitioner is rather unpopular at the present time, but I should like to say a few words in defense of the general practitioner. There is no question but Dr. Dearholt is doing a great deal of good, but I do not want the general public to get the opinion that the medical profession of Wisconsin is incompetent. I believe that the medical practitioners of Wisconsin are competent. We must remember that 80 to 85% of all cases of tuberculosis get well without treatment, or with very little treatment. Assuming that as a general practitioner, 25 patients call on you. You treat them all alike; you see them a few times. Of the 25, 21 or 22 or 23 get entirely well, and are never troubled with tuberculosis again. In 1, 2, 3, or 4 out of the 25 cases the disease may recur. You may have taken care of such a person for a week or for a month; the patient improves, becomes apparently well, and goes away. Six months or a year or two after he calls on another physician. The second physician finds the same condition you did, only a little bit worse. From what you found you were not warranted in sending that person to a sanitorium. You may have seen him once or you may have seen him a half a dozen times, and you are uncertain in your diagnosis. You might have believed that all of the 25 cases were tubercular cases, but still the conditions in any of them would not warrant you in sending them to a sanitarium. Then also you have to take into consideration another element, and that is the misrepresentation, or the misunderstanding, of the patient when calling on the second physician, or when calling on the third physician. I think a whole lot that appears very bad in Dr. Dearholt's report is due to things which cannot be explained when Dr. Dearholt gets the case.

Dr. H. E. Dearholt, Milwaukee (Closing): I want you to admit the truth, when everything has been said, the accuracy of our data. Everything that has been said against the accuracy of this data I tried in my introduction to anticipate, by admitting it. I know the tendency of the tuberculosis patient to deceive the physician, and, as I remarked, I know the attempt that he makes to deceive himself. I have seen plenty of evidence of that, and I am ready to concede all of that.

We did not attempt, and we did not want to make this appear to be an indictment of the medical profession. In answer to one of the gentlemen who suggested the undesirability of allowing the impression to go to the general public that the medical profession is incompetent, there again I thought that I had anticipated the objection in my paper, where I said that it was our policy as an organization to tell the general public some very plain and disagreeable truths about itself, as we see them, and as I as a physician feel them. It does not seem to me it is our province in coming here to make any indictment of the medical profession.

I do not know how accurate our data is, as I early confessed; there must be a large element of error in it.

I want, however, to again impress upon you that this study was one which consumed several months, and cost several hundred dollars. I have but touched the high spots, as I said, and I hope that the medical society will take the material from us, and will have properly constituted men appointed to study that data and draw such conclusions and deductions from the evidence as their capacity as scientific medical men will qualify them to do.

I want to say a word about Dr. Warfield's remarks on sputum examination. I have been one of the men who has advocated everywhere the diagnosis of tuberculosis before the bacilli were to be found in the suptum. But if it is true, or anywhere near true, that 50% of these 200 patients failed to get a sputum examination, even up to the time that they were moderately far advanced cases, because you know incipient cases are exceedingly rare at Wales, if they fail to secure even a sputum examination up to the second and third stages, I say I will consider it a great gain if we will only secure so much. It is a low standard. But when the practice seems to be such as it is, I think we had better be con-

tent with low standards than try for what seems to be an unattainably high ideal.

On the matter of telling the patient that he has tuberculosis, I would suggest that you find the article that I referred to in the Atlantic Monthly. I think it appeared in June, under the title of "confessions of a T. B.," and I think you will find it one of the most interesting psychological studies that you have read, being written by a literary man in the most charming style, well worth reading as a literary effort alone, by one who has a remarkable facility in giving the psychology of the patient's point of view. I think it is most wholesome for the doctors to learn the point of view of the patient, just as we feel it is important for the general public to have the point of view of the doctors.

As I have stated, I should feel complimented to have those who have been so generous in discussing this paper, look over our tables and see what we have attempted to do, and find many, many hundreds of things there that I have not even been able to touch upon.

REPORT OF A CASE OF HYPOPHYSAIRE ADIPOSO-GENITALIS WITH POLY-GLANDULAR MANIFESTATIONS.

BY FRANK C. STUDLEY, M. D., AND JNO. M. CONROY, M. D.,
MILWAUKEE.

It is customary for the writer upon any medical topic to premise his remarks with some excuse for what he may have to say and while one does not presume to impose upon medical intelligence in writing on a subject with which our profession has become familiar during the past twenty years, still we are convinced that pituitary disorders are not so commonly met with by the general practitioner, that a description of this case which recently came under observation would be out of place. Practically all of our knowledge of this subject dates from Marie's work in 1889 at which time he demonstrated the definite relationship between pituitary disease and acromegaly and since that time, mainly from the work of Drs. Cushing, Shäffer, Crowe and Kanavel. One is forced to the conclusion either that pituitary disease is indeed a comparatively rare condition in general practice or else that the condition is not as often recognized as it should be.

The case which we have to report has been suffering from this disease for at least eight years without being recognized as such, and doubtless there are many patients in the public asylums today, considered ordinary dements, who are or were originally plain cases of disease of the hypophysis cerebri. We have no very great difficulty in recognizing pituitary disorders when a case of full-blown acromegaly is presented, but many of us are possibly not so alert as we ought to be in the recognition of disease of this gland when acromegaly is absent, and the comparatively rare Frölich's syndrome hypophysaire adiposogenitalis is present. It is mainly through the efforts of Dr. Cushing that the distinction between hyperpituitarism and hypopituitarism has been so clearly set forth. Quoting from Dr. Cushing's Weir-Mitchell Lecture as it appeared in the Journal of the American Medical Association, (Oct. 31, 1914,) he states that, "A functional hyperplasia of the pars anterior of the pituitary body stimulates tissue growth, chiefly apparent in the skeletal, cuticular and subcuticular tissues and that, conversely, anterior lobe insufficiency should inhibit skeletal growth and sexual development; that functional hyperplasia of the posterior lobe appears to be more concerned with tissue metabolism, for when rendered inactive by disease or by compression, metabolic processes are checked—high tolerance is acquired for carbohydrates, which are promptly stored as fat; there is drowsiness, insensitivity, etc."

Adiposity and genital hypoplasia seem to be the two characteristic manifestations of the so-called Frölich's syndrome, otherwise called, distrophia adiposo-gentalis. It is quite true that cases of adiposity and genital hypoplasia, especially the former, have been reported and associated with alterations of a number of ductless glands such as the thyroid, thymus, and the adrenals but in none of these cases is the occurrence more evident than in disease of the pituitary gland. We know very little as to the physiology of the pituitary body but we do know that it has a definite function in life and especially during the processes of growth. When it is damaged the result is psychic depression, polyphagia, polydipsia, and polyuria. There is ample proof of the fact that when one of these glands is involved, another or several others are simultaneously affected; for example, in acromegaly not only the hypophysis but the adrenals and thyroid as well have been found altered. In cases in which the thyroid was involved as in myxedema, hypertrophy of the pituitary body has been found.

We are well familiar with the frequent occurrence of enlargment of the thyroid at puberty and pregnancy when physiologic changes appear in the generative organs so there is unquestionably an in-

timate relationship between the various glands with internal secretion; but of what this internal relationship consists, as yet, we do not know. We cannot go beyond the clinical observations and the simple registration of facts. We do not know in the syndrome adiposo-genitalis what particular gland with internal secretion plays the most influence in the production of the morbid phenomena, since several of them are found to be altered anatomically at the same time.

History.

Mrs. B. L. was referred to the Riverside Sanitarium, October 17th, 1914, by Dr. Joseph Dean of Madison. She is forty years of age, five feet tall, married, a native of the United States and of German parentage. The personal history of the patient is without any unusual features. She appears to have been a strong, healthy child and young woman. There is no history of serious illness, of accident, fright, or mental shock. She left school at the age of fifteen years at which time she had finished the first year of high school. It is said that her endurance in work was good, that she was ambitious, industrious, strong, cheerful and sociable.

At the age of thirty-two she stopped menstruating and has never menstruated since. The patient was apparently in the best of health, physically and mentally, up to five or six years ago at which time she began to increase in weight so that whereas her weight was formerly 160 lbs., it rapidly increased to 214 lbs. It was noticed that work seemed to tire her and that she was not able to perform her ordinary tasks as well as formerly and she began to lose ambition, became careless about her housework and in her own personal appearance; became forgetful of persons, names, and places, and that at times was rather arbitrary and unreasonable with the children. For a few months past the patient has complained of inability to see well and states that objects in front of her are blurred and hazy. About this time it is recorded that the patient had developed an unsteadiness in her gait, that it was difficult for her to walk; that she fell easily and she stumbled frequently; could not retain her balance and for some little time had to use a cane. This condition would continue for a little while and then disappear and she would then walk and feel as secure on her feet as formerly.

Examination.

An examination of this patient shows some increase in the patellar reflex, a little more so on the left than on the right side. There were no other abnormal conditions in the deep or superficial reflexes. There is no Romberg; no Babinski, or Oppenheim. There is nothing abnormal in the tactile sense but there appears to be a general hyperesthesia of the entire body to the pin prick.

The thermic sense is extremely difficult to determine definitely because of the apathetic mental condition of the patient and the impossibility of holding her attention for any length of time. At

Roentgenogram of the normal skull showing clear and definite outlines of the Sella turcica, and clinoids.

times she calls heat and cold correctly and at other times and upon the same area of the body she calls them incorrectly. There is no incoordination either of the upper or lower extremities. There is no aphasia, no ataxia, no apraxia; the stereognostic sense is intact and normal. There is upon occasions, but not constantly, an appearance of insecurity upon the feet and a sort of headlong reeling gait.

An examination of the eye grounds was made by Drs. G. E. Seaman and Jno. M. Conroy and disclosed a condition of double optic atrophy more marked on the left side. There is also a fairly well

marked lateral tension nystagmus. The left pupil is larger than the right and is almost perpendicularly oval in shape. The acuity of her vision is 5/10 in the left eye and 9/10 in the right eye. Because of the difficulty of holding the attention of the patient, it was impossible to examine the color field. A commencing right hemianopsia is present.

The hearing is normal on the right side and on the left side the patient hears the tick of a watch not beyond six inches from the head. There are no paralyses and there is no marked difference in muscular strength on either side of the body. The dynamometer test in both hands is 30.

An examination of the acuity of the sense of smell and taste shows decided blunting but we are unable to determine whether this condition arises from the brain lesion or from the stupid and inactive mentality of the patient. Narcoleptic fits occur frequently during the day.

The patient suffers from very definite polyphagia, polydipsia, and polyuria, passing upon one occasion 96 ounces of urine in 24 hours. The specific gravity of the urine is 1010 and it contains no albumen, sugar or casts. The blood pressure is normal. We had no history of headaches when the patient was received at the Sanitarium and as a matter of fact the history of headaches was denied, but since the patient has been under observation she has had several attacks of excruciating headaches accompanied by nausea and vertigo. There is excessive general pigmentation of the body showing the part played by the adrenals in the polyglandular disorder.

The psychic examination of the patient reveals the fact that all of her symptoms are distinctly those of defect. She is apathetic, indifferent, and shows decided amnesia as to recent events. She shows a marked tendency to drowsiness and sleeps a great deal of the time, by day as well as by night. She is for the greater part of the time careless of her dress and person and has occasional periods of very great untidiness in her habits. There is a decided lack of initiative in her conversation. The expression of the face is immobile. Mental sluggishness and a condition of alternating depression and irritability are very decided. She appears to be perfectly oriented and is without delusions or hallucinations.

The adiposity; the cessation of menstruation at thirty-two years of age; and prior to and subsequent to this event a noticeable condition of sexual frigidity; the polyuria; polydipsia; polyphagia; the headaches, nausea and vertigo; the condition of atrophy of the optic nerves; the unsteadiness on her feet taken in conjunction with the skiagraphic findings; the absence of acromegaly and gigantism, all point definitely to the existence of a tumor of the posterior lobe of the hypophysis producing Frölich's syndrome hypophysaire adiposo-genitalis.

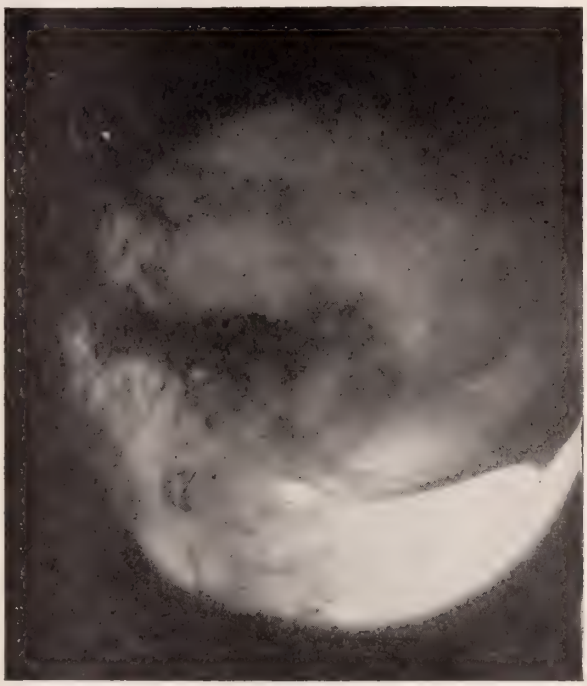


Fig. II.

Roentgenogram of the skull of Mrs. B. L. showing enormously enlarged saddle of the Sella turcica and obliteration of the clinoids.

The roentgenograms were made by Dr. Eugene Smith, and illustrate very clearly the normal sella turcica, and the pathological sella, the result of supra-sellar disease.

This case then presents various interesting features and one is the time of evolution of her morbid symptoms which, as you observe, has extended over eight years and possibly longer for it was impossible to determine with any degree of accuracy any of the symptoms which preceded the sudden increase of weight some five or six years ago, and the cessation of menstruation at the age of thirty-two. She had never had her eyes examined before she came to us and when she was brought to us the impression created was that she presented an ordinary case of dementia.

This patient was referred to Dr. Harvey Cush-

ing of the Peter Brent Brigham Hospital of Boston and was operated upon November 27th, 1914, and made an uneventful recovery.

We append hereto a report from Dr. Cushing as follows: "She has a pituitary disorder with polyglandular manifestations elsewhere, with chief implication of the sexual, thyroid and adrenal glands.

"The operative procedure was the transphenoidal one which you will find described in the Journal of the American Medical Association for October 31st, 1914. The tumor was a characteristic chromaphobe struma. Her condition seemed considerably improved and I trust that you have seen her since her return home. I am enclosing a copy of the hypophyseal symptomatology taken from her history.

"Hypophyseal Symptomatology.

1. "*Neighborhood.*

Headache—frontal and bitemporal quite severe for 2 mos. at short intervals.

Sella Turcica—cf. X-Ray history report. Dorsum destroyed—areas of calcification.

Visual—history of failing vision for 6-8 mos. Can read only a few minutes. Bilateral primary optic atrophy.

Perimetric—cf. appended chart. Bitemporal hemichromatopsia O. D.

Acuity—cf. chart.

Naso-pharyngeal—history negative.

II. "*General pressure symptoms.*

Headache—frontal and bitemporal.

Nausea and vomiting—occasionally for 2-3 mos.

Deep reflexes—of legs increased to exaggeration.

Gait—unsteady and spastic.

III. "*Glandular manifestations.*

Amenorrhea since 1908—when 32 years old.

Skeletal—no evidence of change.

Cutaneous—brown pigmentation over entire body said to have always been present. Dry skin—did not sweat last summer.

Subcutaneous—marked adiposity began 1908 with gain of 54 lbs. in one year.

Polyphagia—since 1908.

Polydipsia—since 1910—becoming more marked.

Polyuria—since 1909—increasing. Has been measured at 3,000 c.c.

Drowsiness and torpidity—very marked symptoms for past year. Sleeps about 17 hours a day.

Constipation—not present.

Loss of libido sexualis—began 1896.

Psychic disturbance—loss of memory, orientation poor, habits and disposition—tends to be untidy and to expose herself.

Epilepsy—no history.

IV. "*Polyglandular manifestations.*

Sexual glands—amenorrhea at 32 yrs. Loss of libido sexualis beginning at about 20 yrs.

Thyroid—goitre when 16 yrs. for a few months. Thyroid slightly enlarged with hard nodule in isthmus at present time.

Adrenals—asthenia very marked. Pigmentation very marked.

Blood pressure — cf. General P. E. S=145 D=110.

Thymus, pancreas, pineal—no indications of involvement.

Very sincerely yours,

Harvey Cushing."

MONGOLISM.

BY A. L. BEIER, M. D.,

ASSISTANT SUPERINTENDENT WIS. HOME FOR FEEBLE MINDED.

CHIPPEWA FALLS.

There are several varieties or types of feeble-minded children that present certain definite and constant peculiarities. Those styled mongolians exhibit probably the most unique and interesting physical, and to a lesser extent, mental features. This type has also been designated the Kalmuck and Tartar variety of feeble-minded, but the term in common use among the older and also the more recent writers has been mongolian or mongoloid idiocy. The term mongolian was first used in 1866 by Dr. J. Langdon Down, who applied it to a class of mental defectives that bear certain decided and constant resemblances to members of the Mongolian race. This resemblance which will be

detailed later, is due solely to the obliquity of the palpebral fissures and the supra-orbital ridges.

Tredgold, in his recent publication, Mental Deficiency, describes the condition under the caption, Mongolian Amentia. The simple term mongolism, to me, seems preferable and adequately descriptive, as it is neither confusing nor misleading, for when speaking of mongolian amentia or idiocy one naturally infers that this condition is a peculiarity found only among the feeble-minded, and that it is always associated with mental defectiveness; the fact that this condition is found among the feeble-minded is merely incidental, and it is wrong to suppose that an individual presenting mongolian features is necessarily defective mentally.

Practically all the writers on this subject admit that the condition is frequently found among normal individuals. I, too, have met them outside of institutions, displaying no signs or characteristics symbolic of feeble-mindedness. I remember distinctly a child who was nicknamed "chink" by his fellow-playmates; he had well-marked mongolian features; if I remember rightly he lost these characteristics to such an extent that they became barely noticeable after passing through the pubertal stage. It frequently happens among the normal individuals presenting such mongolian features, that, as the osseous development reaches the adult stage, or as the child develops to a greater maturity, such features become less and less accentuated. The mongolians as found among the feeble-minded, however, rarely lose their characteristic facial appearance, emphatically demonstrating a more decided and deep-seated faulty developmental process. I have had one case however, who died recently of tuberculosis, who, about a year after he came to us, changed very markedly in his physical characteristics, so that it would have been almost impossible to make a diagnosis of mongolism from the appearance of the facial characteristics alone; his tongue, however, presented its characteristic features. This case had typical mongolian features when he came to us.

Mongolism then, is a condition found frequently among the feeble-minded and occasionally among the normal class, and is characterized by a combination of physical signs which are chiefly referable to the skull, the tongue, and to the eyes. Among these signs those seen on the tongue and about the eyes are the most important. The remaining part of the paper will deal exclusively with mongolism as found among the feeble-minded.

Now, before entering further upon the discussion it would probably be best to detail the various causes as ascribed by various writers. Different writers state that from 3% to 5% of the feeble-minded are mongolians. At the Wisconsin Home for the Feeble-Minded, according to our present population, 1-3/11% are of this type. Sometimes, however, our percentage is a little higher, and again at other times, a little less.

The condition may be met with anywhere; no nation or race is exempt; medical literature contains numerous theories concerning the causation of this condition, but none seem adequate; it is still an unsolved mystery. Dr. J. Langdon Down, quoted heretofore, believed that phthisis in one or both parents was causal in its production; however, Dr. Martin Barr discredits this and says: "Only about ⅛ of my cases of mongolianism had a phthisical history and with these there were various complications." Of the cases under our care only one presents any definite history of tuberculosis in his ancestry, and in that case, there is also a history of insanity, the child's paternal uncle having been insane. Old age in one or both parents has been ascribed as causal; we however have no data to substantiate such a conclusion, although I am willing to grant that there may be such data, unknown to me, in existence. It has also been said that last born children are liable to be of the mongolian type; but, as Dr. Barr says: "I do not find data sufficiently reliable to affirm any one cause above another in the production of this type." Dr. Ireland came to a similar conclusion Besides tuberculosis and old age, alcoholism, syphilis and insanity, in the progenitors have been cited as causal; no definite conclusion has been arrived at however. It is a fact that these children may come from any station in life, and may develop in families where, as far as is known, there is no definite mental or physical affliction. Syphilis, tuberculosis, alcoholism, or old age, may be found in the ancestry, but as Dr. Sutherland said, "these general causes are not likely to produce such an exact type of disease as exists in mongolism. It seems probable that one and the same cause is at work in all cases." (Quoted from Tredgold's work, Mental Deficiency.) True, in a condition where the physical and mental characteristics are so unique and common, one would

almost expect to find the same etiologic factor operative in each case.

Though Shuttleworth believes that this class of children exhibits a condition of hypotheroidea, no data have been discovered to support such a view; in fact, no definite causal factor has so far been discovered. Dr. A. W. Wilmarth, however, has found a condition present in the brains of these children that does not occur among other types of defectives. I have been able to find the same condition in one mongolian, with the kind assistance of Dr. Wilmarth, who gave me the opportunity to perform the autopsy, and who guided me in the examination of the brain.

In Dr. Wilmarth's report on the examination of 100 brains of imbecile children, in a paper read at the Faribault meeting of the Association for the Study of the Feeble-Minded, in 1890, he included a report of five cases of mongolism. He says: "In all these the brains are of good size for imbecile brains; the pons and medulla being very small, weighing in each case about ½ ounce, whereas the usual weight is nearly twice as much." In the case that we examined the weight of the brain was 31

Fig. I.

Fig. 1. Demonstrates the peculiar mongolian tilt to the eyes, the fissured lips, the stumpy fingers, also, (quite accidentally,) the Telford Smith little finger. The child to the right of the picture does remind one of a "Chinese Idol".

ounces, while that of the pons and medulla was ½ ounce. Dr. Wilmarth also found evidences of old arteritis, atheromatous areas, and the cerebral vessels much thinner than usual in healthy brains. He states further that "the defective circulation and nutrition of these children lead one to suspect that the defective condition of the vessels may be a general condition. From the small size of the pons and medulla in every instance there seems to be a strong probability that the low nutrition, and possibly the other anatomical peculiarities of this group may be due to the imperfect development or absence of certain cell-groups in this region."

What significance these findings may have is still a matter of uncertainty. Whether these are secondary to a general faulty developmental process, or are in themselves causal, is a matter of speculation. It is highly probable that they are simply a part of the general characteristics found in this class of humanity. Shuttleworth calls them "unfinished children", implying that their general physical make-up represents practically a phase of fetal life. Many observers hold the opinion that these children are the products of exhaustion in the progenitors; this exhaustion may be secondary to any of the chronic wasting diseases predicating grave systemic disturbance.

The following is a list of causes ascribed as taken from our records. This includes only a few of the cases that have come under our observation.

R. F. Parents were elderly when child was born.

W. V. Father insane; mother had an ovarian cyst during her pregnancy.

A. L. Born prematurely; mother subjected to considerable anxiety during her pregnancy.

C. Y. Mother very erratic; child born one month prematurely; came near having a miscarriage during the sixth month of pregnancy; paternal uncle was subject to spasms when a child.

H. K. Father a drunkard; a worthless fellow.

H. M. Paternal uncle insane; tuberculosis in the family; no other data.

E. W. Mother subjected to considerable anxiety before the birth of the child.

N. G. Mother died of cancer; father, unstable, and a drunkard.

These causes all point to a probable factor that may have been instrumental in vitiating the nutrition of these children during some period of their intra-uterine development.

Tredgold comes to the following conclusion and says: "In nearly all my cases there was a neuropathic family history and frequently a strong tubercular taint, but over and beyond this what I did frequently find, and what I think may possibly be the factor common to this type, was a history pointing to a condition of uterine exhaustion or ill-health of the mother during gestation." Further on he states that he believes this condition

"the result of two factors: morbid heredity and uterine exhaustion, or some specific nutritional defect, and that with a pronounced degree of the latter, the morbid inheritance may be only slight." Thus we see the causal factor in the production of this condition still a matter of speculation; there have been no definite findings; still, the fact remains that there is present frequently, (maybe to a greater extent than we are aware of), a morbid heredity, which may be latent and not sufficiently intense to become apparent, and along with that some systemic disturbance that would tend to affect intra-uterine growth, or some local uterine affection that tends to impair the nutrition and development of the fetus, resulting in the production of these "unfinished children". Dr. H. H. Goddard, Vineland, N. J., believes that disturbance occurs during the second month of gestation.

In regard to the pathological findings, there have been none of great importance excepting those of Dr. A. W. Wilmarth quoted heretofore.

Now, reverting to my partial definition of mongolism, I said that it was a condition characterized by a combination of physical signs chiefly referable to the skull, the tongue, and to the eyes. A consideration of these characteristics will be given in their order.

The skull is always brachycephalic, markedly flattened in back, and less prominently in the facial region, being "obtusely rounded" (Ireland), and its anterior-posterior and lateral diameters being nearly equal. Besides being flattened, the face seems broad and is rather repulsive. It may be added here that the sutures are late in closing, this however being nothing characteristic of this condition, as it occurs frequently in all types of the feeble-minded.

The tongue, especially among infants, often protrudes from the buccal cavity, and is always considerably enlarged, containing hypertrophied circumvallate papillae and numerous transverse fissures, usually extending laterally from the raphe, giving it a hacked appearance. Frequently the fungiform papillae are found to be enlarged, a matter that is probably due to a chronic glossitis. Some writers maintain that the glossitis and fissures are due to the fact that these children suck their thumbs and fingers constantly; there are many exceptions to this habit however.

The eyes present an appearance of obliquity, a condition seen so often, as Dr. Ireland remarks, in Chinese drawings. In describing one of our cases Dr. Wilmarth, most aptly remarks: "He is indescribably ugly in features, and is fond of sitting cross-legged like a Chinese Idol which he resembles in appearance." It is the obliquity of the superciliary ridges and the palpebral fissures that gives these cases the mongolian facies. This obliquity gives the outer canthus of the eye a higher, the inner, a lower, level than is usual among members of the Caucasian race. Besides this, an epicanthal fold is sometimes seen, but this does not occur constantly; I saw such a condition just recently in an individual who presented no other abnormality.

These are the main features of these cases; there are, however, minor peculiarities which are of diagnostic importance. The eyelids are frequently subject to a chronic blepharitis; various lens changes, nystagmus, and strabismus are often seen. In some few cases the palpebral fissures slant downward toward the outer canthal end; we have one such case who presents all the other characteristics however. The ears are usually small with an adherent lobule. The nose is short, narrow and shallow at the bridge, but thick, slightly flaring, and "premorse" (Ireland) at the distal end. The nostrils are tilted slightly upward and backward. The lips are usually full, but fissured and often cyanotic.

The epidermis is smooth and soft during infancy, later, however, becoming rough and dark, and especially coarse on the extremities, showing the effects of a weak circulation of the blood; cyanosis of the hands and feet is also of frequent occurrence.

The body is nearly always dwarfed, although it is proportionately developed. The abdomen is quite large and prominent but not so pendulous as seen in cases of untreated cretinism, a condition with which mongolism is so often confounded. The various articulations of the long bones are extremely lax, often enabling the mongol to place both feet over his head. As a rule these children love to sit "tailor-fashion". I have one case who could compete very favorably with a professional "contortionist", this case showing an especially extreme natural laxity of the articulations of the long bones. The muscular system itself lacks tone, and in well-nourished children of this type, is inclined to flabbiness.

In nearly all my cases among the boys, the genitalia are underdeveloped, the penis and testicles

being considerably under size. Frequently, one or both testes are undescended. I have never had an occasion to examine any female mongol but would be led to believe that the same infantile development of the sex organs obtains among them. It may be said here that the sexual instinct is not so well developed as in other types of feeble-minded.

The hands and feet are short and broad; both fingers and toes being stubby. Dr. Telford Smith, Lancaster, England, called attention to a peculiarity in the shape of the hand of these children. From an abstract of his paper published in the Journal Psycho-Asthenics, Dec., 1896, I am quoting the following: "The peculiarity in the shape of the hand to which I wish to call attention, exists in the little finger and consists in a marked out-

Fig. II.

Fig. 2. Represents various mongolian feeble-minded children, of varying degrees of mentality. All of these have the characteristic mongolian tilt to the eyes, fissured lips, furrowed tongue, and other distinctive features described in my paper.

ward bowing or curve of this finger. From it we see that the second phalanx of the little finger is considerably shorter than normal and there is much lateral displacement of the terminal phalanx. This curve of the little finger occurs to a greater or less degree in nearly every case of mongolian idiocy I have examined, so I think it may almost be looked upon as one of the constant peculiarities of this type." In respect to this peculiarity I might say that it is sometimes present, and, moreover, that it occurs not uncommonly in other types of feeble-minded as well. However, as Tredgold says, "both the little fingers and the thumbs are much shorter than normal," and "in mongols it is very common to find it, (the little finger), extend no farther than the middle of the second phalanx." He also mentions as characteristic an unusually large cleft between the big toe and the next one; I might also add that occasionally one meets mongolians where the cleft between the thumb and the forefinger is wider and deeper than is usually seen. However, the conditions mentioned by Smith and Tredgold are by no means characteristic of this type, as they are frequently seen in other types as well.

The heart presents no definite and constant peculiarities; lesions may or may not be present; the circulation is usually defective however, as is evidenced by the frequent appearance of varying degrees of cyanosis of the feet, hands, lips, ears and nose. This leads very frequently, even when exercising the utmost precaution, to frost-bites of these members, and when infections of these parts occur, the healing process is extremely tardy, and it sometimes takes weeks before the healing of a simple wound is established. Ulcerated conditions, cyanosis and coldness of the extremities are extremely common during all seasons of the year and are difficult to prevent. The temperature, too, of these individuals under even normal conditions varies from 96° to 99°, it is, however, most frequently subnormal.

There is, besides these peculiarities, a marked susceptibility to respiratory and gastro-intestinal diseases, and moreover a mild attack of bronchopneumonia or bronchitis, gastritis or gastro-enteritis, is often sufficient to snuff out the weak spark of life existing in these under-developed children; furthermore, these children are peculiarly susceptible to tuberculosis; their vitality is very poor; their circulation weak and sluggish; their resistance to disease extremely inadequate; the prognosis in some of the simplest conditions of disease is usually bad; they seldom live to a very great age; the oldest that we have had under our care, who was with us since the institution was built, lived to be 28 years of age, quite a remarkable age for one of this type; his death was caused by a pulmonary tuberculosis.

Though peculiarly predisposed to tuberculosis nothing noteworthy characterizes the chest findings, there may be deformities present; pigeon-breast is frequently met with, but no more so than among other types of children. The abdominal findings usually present no abnormalities, excepting that the abdomen itself is usually prominent.

As a rule these children have the appearance of being under-developed and the characteristic fea-

tures constituting them a type may be seen at birth or soon thereafter. Dentition occurs usually quite late and even after development of the teeth, early decay is the rule. Their deciduous teeth are replaced very slowly, and even their permanent teeth are liable to early decay and are often implanted most irregularly.

There is no definite lesion observable in these cases but one would expect to find evidence of a general condition of hypoplasia. Very few of them learn to walk before the age of three years; the ability to hold up their heads, sit alone, creep or crawl, and their speech, is most tardy in development. Every mongol under our care had a defective speech.

Their mental traits are not as pronounced as their physical characteristics; still, even here, the findings are almost uniform; usually they are happy, amiable, smiling, good-natured, but obstinate, active, mischievous and imitative, often furnishing considerable amusement to their companions by their antics and powers of imitation; they are not, however, inclined to be affectionate.

Mongolism is not difficult of diagnosis. When one keeps in mind the chief characteristics and the distinctive Mongolin features from which the condition receives its name, one is hardly liable to mistake this condition for another; again, when once seen it becomes very easy to diagnose if met again; the great facial resemblance that this type of child bears to another of the same type, and to members of the Mongolian race, along with the finding of the characteristic transverse fissures on the tongue, would seem to preclude any possibility of making a mistake in the diagnosis. There is, however, a condition that is often confused with mongolism, and it may be said that the majority of our mongols come to us with a previous diagnosis of that condition, namely, cretinism; it is this fact that has led me to write this article. There are some points of resemblance, but if the chief characteristics as detailed are kept in mind one is hardly liable to mistake mongolism for cretinism.

Cretinism we know is a condition caused either by an absence of the thyroid gland, or by a deficiency of the thyroid secretion. In the majority of the cases of mongolism the thyroid gland is palpable, whereas, in the sporadic cases of cretinism, such as are found in this country, in the majority of instances, it is not palpable, and is moreover, nearly always, absent. In mongolians, if the lateral halves are not palpable, the isthmus usually is. The eyes in cretins do not show the characteristic Mongolian tilt, nor does the tongue show the distinctive furrows or fissures, though enlarged and protruding. In cretinism the head is more rounded, larger and disproportionate to the rest of the body; the eyelids are puffy and swollen; the abdomen more prominently tumid and pendulous, the skin frequently thrown up in coarse folds, due to the deposit of fat; the stature is always markedly dwarfed; the skin, rough, dry, furfuraceous, wrinkled, thickened and edematous, especially over the hands, feet and eyelids; the hair is scant, coarse and dry. None of these signs are observable at birth, whereas the characteristic signs of mongolism are. Moreover, in cretinism the supraclavicular and axillary spaces almost invariably contain soft, elastic swellings consisting of deposits of fatty substance. Furthermore, treatment of the cretin with thyroid extract results in marked changes; the abdomen becomes less prominent; the eyelids lose their puffiness; the tongue decreases in size, finally assuming such size as would allow it to remain conveniently within the buccal cavity; there is furthermore an increase in stature and the general mental activity; the skin loses its coarseness, etc. Thyroid extract influences mongolians but slightly, in fact no more so than any condition where stimulation is indicated.

Mongolism, too, has often been confused with rachitis; i. e. mongolism has been called rachitis However, when one bears in mind that mongolism is of congenital origin and that rachitis is a condition due to post-natal nutritional disturbance with a very decided characteristic symptom-complex; when one remembers that rachitic bone changes occur after a period of digestive disturbance and are due to dietetic errors, and occur only exceptionally before the sixth month of life, one can hardly make a mistake. After the bone changes have occurred, the characteristic beading of the ribs and later the enlargement of the wrists, knees, angles, along with an enlarged spleen craniotabes, and a general flattening of the bones of the head, etc., one is hardly liable to make an error in the diagnosis.

There is another condition that is frequently met with, but its symptomotology is so characteristic that it could not be confused with mongolism. The condition that I speak of is achondroplasia. Children suffering from this condition are always

dwarfed in stature, this being the only point of resemblance between the two conditions.

In regard to the treatment of this class of children but little can be said, and little can be accomplished; there is no known drug that will affect their mental and physical condition to any beneficial degree; true, recently an extract of the pineal gland has been found to affect the growth of organisms, but we have been unable so far to experiment with it; it is highly doubtful, however, that any truly beneficial results could be obtained. Systematic training so far has accomplished the best results, but even this, if not indefinitely persisted in, will yield but meagre results. Recently I noticed the mongolian type spoken of in some of our daily papers; it was stated that children of this type are almost entirely unimprovable—true! but the fact remains that they are as improvable as other types of feeble-minded children with whom they correspond in mental age. Mongolian children vary in intelligence as decidedly as the other types of mental defects, and are correspondingly as improvable and trainable.

In respect to the care of the mongolian feeble-minded children it is necessary to maintain careful, adequate clothing, in order to prevent the taking of "colds" to which they are extremely liable; again, during the summer months, one must be very careful of their diet, as some dietetic error, resulting in either gastritis or gastroenteritis frequently spells death to these congenitally weak children.

THE FLUORESCENT SCREEN IN MEDICINE AND IN SURGERY.*

BY EUGENE A. SMITH, M. D.,

MILWAUKEE.

Fluoroscopy is not new in principle but it is comparatively recently that practical apparatus for the purpose has been put into our hands. Examination under the X-ray without protection to the examiner or patient, has in the past, sent a long line of honored investigators on their long journey, victims to its unguarded ray, burned, scarred, and crippled so that only their Maker could recognize them. Today, with a more intimate knowledge of this agent, protected by filters of leather, aluminum, lead-glass, lead, and concentric diaphragms, we can safely expose for any length of time. The new water-cooled and other types of X-ray tubes allow us an even, continuous X-ray for an indefinite period, and the fluorescent screens are really very efficient and durable.

When the following work is described the advantage of a uniform, continuously lighted screen will be readily comprehended. We have in these two types of apparatus, roughly diagramed, the upright apparatus called the roentgenoscope and the horizontal apparatus or trochoscope. You will note the active X-ray tube in its lead chamber, emitting the ray through a small opening, to be filtered and diaphragmed till the part to be examined is alone in the field of vision. The examination room must be quite dark and the examiner should remain in this dark room for some time previous to the examination, as it has been found experimentally, that the retinal sensitiveness to the fluorescence of the screen is thereby increased fifty to one hundred per cent. the first ten minutes and two hundred per cent. if in the dark room twenty minutes. The patient, therefore, being placed between the tube and the fluorescent screen, the examiner by the use of the simplest kind of a lever, moving the tube-box and the fluorescent screen together is enabled to study, at leisure and with safety, the entire body of the patient.

The fluorescent screen in medicine and in surgery is used not only for the detection and correction of gross lesions, but for the study of the physiology of organs in their normal and abnormal relations. The X-ray plate will show the fine detail of tissue and bone disease and injury when all other means of physical diagnosis have failed. For example; a beginning tuberculosis in the lung apices will frequently show in the X-ray plate long before it can be elicited by palpation, percussion or auscultation. It is not the intention of this paper, however, to review the many advantages of the X-ray plate but to discuss the information to be gained from a series of moving pictures of the normal and abnormal anatomical relations of the functionating body. The screen is truly the meeting place of the physician and surgeon. Here they will come with their collateral clinical evidence to compare it with the findings of the screen. There will be no debate as to whether the case is medical or surgical, for here the two fields are seen on one screen, yet distinct.

*Read before the Milwaukee Medical Society, Jan. 26, 1915.

Muscles and Bones.

In the examination of the muscles, bones and their joints in health, disease and injury, the parts may be seen plainly under the screen, the sound and affected sides easily compared, and any abnormal conditions noted. Confirmation of the screen findings with the X-ray plate should always be made in a thorough comparative analysis.

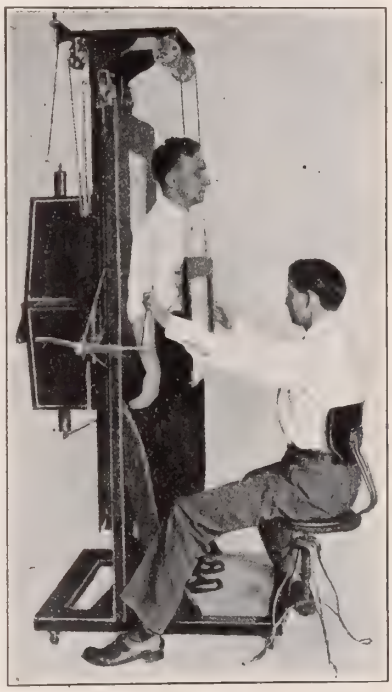
Muscles, tendons and ligaments that have been cut or torn entirely or partly across, under the screen show the level and extent of the injury by their altered contour, by the loss of function, and in the case of ligaments, by the abnormal inequality in the joint space.

Spinal curvatures are easily noted: characteristic arrangement of the ribs in disease, as for instance the roof-tile arrangement of the ribs, indicative of chronic lung disease: epiphyseal lines; curvatures of the long bones, calcification of the blood vessels, hypertrophy, atrophy, destruction and regeneration of the bones, aneurysms, telangiectasis, stone in the kidney, ureter and bladder, foreign bodies, and the outlining of sinuses and fistulas may be diagnosed.

As to fractures and dislocations, the day has passed when it can be said that they have been thoroughly examined or properly reduced without the use of the fluorescent screen. Several of the Physicians' Protective Insurance Companies have refused to defend surgeons against mal-practice suits in which the surgeon has not used the X-ray in making his diagnosis. I believe this step should be followed by another in the same direction, and that surgeons should be required to actually set or reduce all fractures and dislocations under the screen.

Surgical literature is full of methods for reducing fractures and dislocations. How often is this accurately done? Why do we have open operations for fracture so often? It is because we have not known the reason for our being unable to reduce a fracture or dislocation, or else we supposed that they were reduced, when in reality they were not. How often and with what feelings have you approached a fracture of this kind; the patient presents a large, discolored and distorted elbow, swollen to drum-like hardness, defying your sense of touch, upon which you have had to rely for information as to the conditions therein. The X-ray plate shows a number of fractures.

Has it not been almost a certainty that without open operation the patient would have to look forward to a seriously impaired joint? The X-ray plates and the stereoscopic examinations thereof have told us the exact conditions we had to meet. Acting thereon, we have attempted the best possible reduction of the bones that we could get, and still our results have been imperfect and disheartening, and frequently the entire work must be done over in open operation. This has meant loss of time and a far larger doctor bill for the patient. It has meant something more grave: serious atrophy, from long disuse of the impaired parts, while Nature has been trying to rebuild and realign bone and joints, and muscle pull.



What has been the invariable result of this kind of an injury? Impairment and deformity for the patient. Reproaches and mal-practice suits for the surgeon.

The following technique for the reduction of fractures and dislocations is now within the reach of every surgeon, considering the fact that in the case of fractures the surgeon has a week in which to reduce them. The suspected injury is placed under the fluorescent screen and compared to the normal part. A fracture or dislocation having been recognized and apparatus for the mechanical extension of the bones having been placed on the trochoscope, if necessary, the patient is placed on the trochoscope and anesthetized in every instance. The muscles being perfectly relaxed, the surgeon

fixing his eyes on the fluorescent screen observes the bones, observes the direction in which the fragments should be drawn, and, manipulation and extension being made, observes the effects of traction, and sees, with delight, the fragments slipping into their normal position. He sees and knows positively, in spite of swelling and collections of blood, that he has accomplished a cabinet-maker's approximation, in proper alignment, and applies his splints. Except where a medico-legal question arises as to the condition of a fracture or dislocation before reduction, an X-ray plate is not made until any bony displacements are corrected and the splints applied. An X-ray plate now being made, is filed as a record of your work.

There is no guess work about the reduction of the bone, formerly concealed in the swollen, drum-like, injured part. You do your work unblinded by the fear that you will not get a good result; you have every confidence that the parts injured, having been accurately opposed, will go on to uninterrupted recovery in the shortest possible length of time; you present to your patient the confident front of the man who knows that he has done a good piece of work and that confidence the patient is quickest to see, and to appreciate, and to share.

The Thorax.

In the thorax may be observed infiltrated and calcified glands, abscesses, empyema, pneumothorax, tumors, the esophagus and the trachea, foreign bodies, the aorta and the heart in their various positions. The displacements due to pressure of tumors, adhesions, aneurysmal and cardiac enlargements are plain to our eyes and we are helped in our effort to relieve these conditions, provided we can interpret what we see.

How vast a study this is can be deduced from the fact that Groedel has given us a book on the heart alone, as seen on the screen and X-ray plate. The size, shape and various positions of the heart in relation to the diaphragm and center of the thorax are in each case characteristic of a definite disease of the heart. It may be seen therefore, that this work is strictly in the realm of the roentgenologist, and in each case he in turn must depend on the physician or surgeon for his clinical collateral data in order to make a complete and accurate diagnosis.

The displacement of a heart may bring the aortic arch into such marked prominence as to make it appear aneurysmal. The same appearance may be produced by infiltration in the posterior mediastinum, crowding the arch forward and to one side.

The thorax in profile gives us the only possible view of the anterior and posterior mediastini and it is a splendid one, showing perfectly the heart and the great vessels, trachea, esophagus, vertrabrae, and any new growths, abscesses, strictures, etc. The screen not only allows us to see what we have deduced from our ear and hand examinations in the past but has revolutionized much of the physiology in the thorax and abdomen and shown it to have been largely speculative.

The Diaphragm.

Normally the diaphragm rises and falls at the level of the sterno-enciform articulation, and the right side is slightly higher than the left.

Upward displacement of the diaphragm may be caused by ascites, subphrenic abscess, or abdominal tumors. Distention of the stomach will displace the left dome of the diaphragm upward. Downward displacement is one of the evidences of a general visceroptosis.

The Esophagus.

This is best observed in the oblique or profile chest position. The patient having partaken of a glassful of opaque mixture, the examiner may trace its passage down the esophagus observing any obstruction or retardation. The coarser the opaque meal to be given, the more noticeable will be the peristaltic waves, and any pathology in or about the esophagus more easily seen. Changes from slight variations of movement to wide dilatation of the esophagus may be observed. These symptoms are useful in the development of a diagnosis in aortic aneurysms, spinal abscesses, and new growths in the mediastinal glands. Reflex or spasmodic obstructions will usually occur at the cardiac orifice, being due in many cases to small ulcers of the mucosa, the shadow taking the form of a funnel.

Carcinoma of the esophagus usually affects the lower third and frequently the walls are observed as irregularly eroded. Foreign bodies are most easily observed in this position.

The Stomach.

A resume of the physiology of the gastro-intestinal tract, with the method of developing it on the fluorescent screen is as follows:

In stomach cases it is well to give the opaque meal six hours before the examination, and during the examination another glassful of the barium suspension may be given the patient in order to watch the filling of the stomach.

At the first examination, six hours after the opaque meal has been given, the stomach should be entirely emptied, and the pyloric cap well outlined, if the motor power of the stomach is normal and there is no obstruction. The upright position is the best one for the fluoroscopic examination of the stomach, the conditions being then more nearly those usually seen in operation.

At the beginning of the examination watch carefully the way the stomach fills. The walls of the empty stomach are in contact and the barium must then force them apart, producing a wedge shaped shadow, first seen at the cardiac orifice, gradually becoming larger until the sinus of the stomach is reached. Such is the picture of the stomach, the muscular walls of which retain their normal tone. Tonic muscular action maintains the lumen of the stomach in tubular form. After two or three mouthfuls of the opaque meal have been swallowed, the form of the stomach should resemble the letter J, the stomach lying almost entirely to the left of the middle line.

There are four types of a normal stomach.

1. Hypertonic.

The tonicity of the muscle is increased, and the stomach empties in 2 or 3 hours.

2. Orthotonic.

This is the usual type of stomach, which empties in 3 to 5 hours.

3. Hypotonic.

Emptying in 4 or 5 hours.

4. Atonic.

Emptying in 6 to 8 hours.

In some individuals the atonic stomach is normal; its functions not deranged. However, it is usually abnormal.

In the atonic stomach the muscle of the walls fails to maintain the tubular form of the stomach against the weight of the food. The barium, after passing the cardiac orifice sinks at once into the most dependent portion of the stomach, where it lies in a sac, forming a crescent or half-moon shaped shadow. The lower border of the atonic stomach is always well below the level of the umbilicus. The fornix of the stomach is very frequently filled with gas, though this is evidently of very little significance.

Motor Function of the Stomach.

Peristalic waves are always present in the normal stomach from the time food enters until the organ is emptied. The waves start opposite the cardiac orifice and sweep down the greater curvature, gaining in strength and depth as they near the pylorus.

In most cases of gastroptosis the muscular walls of the stomach share the general lack of tone, and the picture presented is that of an atonic stomach, with the barium collected in the most dependent portion of the sinus. In a great majority of cases the pylorus and cardiac end of the stomach, being firmly fixed by their ligaments, remain in position, the sinus falling, due to an increase in the length of the organ.

The lower border descends far below the umbilicus. Peristalic waves are either entirely absent or very weak. In ptosis with atony, the emptying time of the stomach is prolonged, a residue remaining 6 to 8 hours, or longer, after its ingestion. A more severe form of ptosis involves the pylorus as well, it being found down as low as the fifth lumber vertebra. In these cases there is usually no retention of food. The transverse colon shares the downward displacement, reaching down to or below, the symphysis pubis. This condition may cause kinking at the hepatic and splenic flexures.

Gastric Ulcer.

The fluoroscopic picture in cases of gastric ulcer varies with the variety of ulcer with which we are dealing. The different types of gastric ulcer with their accompanying fluoroscopic picture follow:

1. Simple mucous erosions involving only gastric mucosa.

This is the class most difficult to diagnose, and the only points of diagnostic importance that we can expect to find are the presence of an incisura opposite the ulcer; a persistent sharp indentation of the greater curvature, and a barium rest after the stomach is emptied.

II. Penetrating or callous ulcers involving the musculature of the stomach walls.

Here, in addition to the incisura commonly present, there is a slight bud-like or spur-like projection from the profile of the stomach shadow. The term niche has been applied to this shadow. It is the most frequent pathognomic sign of stomach ulcer. It may occur on any portion of the stomach wall. In both the simple and the penetrating ulcers, the peristalic waves are not markedly exaggerated.

III. Perforating ulcers.

It is in these cases that the fluoroscopic examination is of greatest value. They can be detected in the majority of cases.

The fluoroscopic signs of ulcer follow in the order of their importance.

1. The accessory cavity.

A diverticulum-like projection from the stomach shadow, usually on the lesser curvature. This is the most important single sign of a perforating ulcer, and is absolutely diagnostic.

If the perforation is upward, it frequently involves the liver. In this case the shadow moves with the respiratory movements. There can be seen a distant mass of barium in the process on the margin of the stomach silhouette, often separated from it.

II. Persistence.

The barium shadow may outline a perforating ulcer long after the stomach has emptied itself.

III. Bubbles.

A hemispherical bubble of gas or air may frequently be seen lying above the barium in perforating ulcer.

IV. The incisura.

This is a marked contraction of the greater curvature, opposite the ulcer, and is the strongest contributory sign of ulcer. It may be so deep that it nearly bisects the stomach, or it may only cause a dimple. The outline is usually sharp and regular. An incisura high up in the stomach may be above the zone of the shadow of the opaque meal, and so escape notice.

A spasm not infrequently causes a contraction of the muscle of the stomach, simulating a true incisura. These latter contractions relax or disappear upon vigorous palpation, or upon the administration of belladonna. A true incisura must be constant and stationary, must be present when the stomach hangs normally, and must survive vigorous palpation and the administration of antispasmodics. Incisurae of the greater curvature occur frequently in ulcer of the duodenum as well.

V. A barium residue remaining in the stomach more than six hours after ingestion.

This is usually caused by the pyloric spasm so frequently accompanying ulcer. It is not commonly found in the ulcers of the body of the stomach.

VI. Displacement to the left of the pars pylorica.

In perforating ulcers the residue in the sinus has a sharp, straight, almost perpendicular outline on the right side, with the shadow of the bulbus duodeni to the left of the umbilicus.

VII. Hypertonicity.

An alternation between the hypertonicity and atonicity of the stomach walls, occurring every four or five minutes is almost diagnostic of pyloric ulcer.

VIII. Frequent deep strong peristalic waves.

IX. Antiperistalis.

Hour Glass Stomach.

A constriction across the stomach shadow, occurring anywhere between the cardiac orifice and the pyloric canal, whether spastic or organic causes a bi-locular appearance of the shadow, a picture to which the name of hour-glass stomach is applied. It is always suggestive of such a condition when the lowest part of the barium shadow does not reach the level of the umbilicus without showing some sign of turning toward the right. The diagnosis of hour-glass stomach can usually be made from the shape of the upper sac alone, which tapers down to its lowest point. A fine pencil-like shadow of the barium may be seen connecting the two divisions of the stomach, or in some cases only drops of the mixture can be forced through the narrow passage.

I. Functional or spasmodic hour-glass contraction.

A spasm of the muscle of the stomach walls frequently produces the picture of the hour-glass stomach. The usual location of this spasm is at the junction of the upper and middle thirds of

the stomach. In these functional cases which many times present the same appearance as do organic constrictions, vigorous palpation of the abdomen relaxes the spasm, allowing the barium to pass downward. If traces of the barium are observed at the site of the obstruction for a considerable length of time, in spite of massage and a drink of milk, it is practically certain that there is some ulceration present. If the bi-locular form is retained in spite of vigorous palpation and the administration of antispasmodics, the obstruction is most probably organic.

II. Intermittent hour-glass contraction.

In these cases the picture at one time may be that of an hour glass stomach and at the next examination may show a normal shadow. The shape of the stomach while the spasm is present is not in any way affected by massage or antispasmodics, or by alteration of the position of the patient. There is no lessened motility and never any residue in the stomach after six hours. This condition is said to be due to distention of the colon with gas, or in rare cases due to the pressure of a deformed costal arch.

III. Organic.

In old-standing organic contractions, the channel of communication between the two sacs is frequently very narrow, and when the barium passes down in the form of a thick unbroken shadow, unaffected by massage, we can be reasonably sure of the presence of an organic contraction. In most cases of organic hour-glass stomach, the shadow of the lower sac is well below the umbilicus, and both atony and pyloric obstructions are present. When the upper sac is small, the esophagus is frequently dilated.

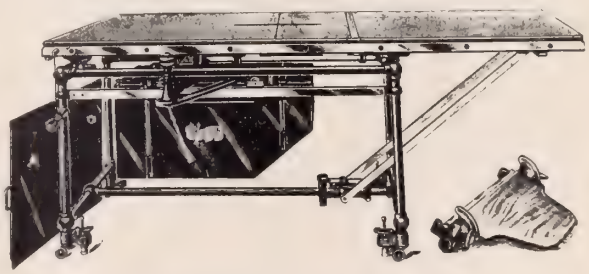
Organic hour-glass contractions are either benign or malignant.

I. Benign.

This form is a sequel of callous ulceration of the lesser curvature of the stomach. The contracting scar tissue draws the greater curvature over toward the infiltrated lesser curvature, producing a bilocular stomach. The connecting channel in benign contractions usually lies near the lesser curvature. The opaque meal collects in the upper sac and slowly filters through into the lower one. The emptying time is necessarily prolonged, due both to the hour-glass contraction and to the pyloric spasm, frequently present. Hour-glass contractions occur in pyloric and duodenal ulceration as well as in cases of ulcer of the body of the stomach. A spasm of the pylorus is differentiated from organic obstruction by the presence of marked antiperistalsis in spastic conditions.

II. Malignant.

This is caused by concentric invasion of the entire circumference of the stomach by the malignant growth. The connecting canal lies in the center of the stomach and is larger and more irregular in outline and has a funnel shaped entrance and exit. The channel is also longer in carcinoma since more of the wall is involved. The food, on entering, passes directly through the canal into the lower pole of the stomach. Thus the true form of a stomach cavity may not become evident until the stomach is well filled. The emptying time may not be delayed, unless the pylorus is affected.



Carcinoma of the Stomach.

The roentgenologic recognition of carcinoma is dependent upon the recognition of persistent defects in the normal stomach silhouette. The encroachment of the growth upon the stomach shadow can be easily seen. Carcinoma of the cardia is usually suspected from the stenosis of the esophagus with dilatation above.

Infiltrating carcinoma results in a thickening of the stomach wall. Peristalsis is absent in the infiltrated portion. It may produce the picture of an hour-glass stomach. In carcinoma of the pylorus there is a defect in the stomach shadow or in the shadow of the pyloric canal, the edge of which is ragged and irregular. Carcinoma of the pylorus in most cases produces obstruction with retention of stomach contents. The lower pole of the stomach is dilated and extends well over to the right side.

When carcinoma is suspected, the presence of normal peristalsis in the pyloric canal and along the entire wall of the stomach, is of great value in excluding the disease.

Duodenal Ulcer.

The fluoroscopic diagnosis of duodenal ulcer rests upon the recognition of certain signs, similar to those which are found in cases of gastric ulcer.

I. The encroachment upon the duodenal shadow causing a ragged indentation of the duodenal silhouette. This is caused by the heaping up of callous tissue around the mucosal defect which in many cases is very small. Any duodenal ulcer, more than a simple erosion, will deform the outline of the barium mass, and as 95% of duodenal ulcers occur in the first part of the duodenum, they can, in the great majority of cases, be diagnosed. The bulbus duodeni is a constant anatomical entity, and a good picture of this can always be obtained either in the standing, prone or lateral position. If a normal cap can be shown, there is a great probability that there is no duodenal ulcer. In an erosion large enough to cause symptoms there will be a defect in the shadow.

II. Persistence of a fleck of barium in the crater of the ulcer.

This sign is not as common as it is in gastric ulcer.

III. The incisura.

This occurs opposite the ulcer as it does in gastric cases and is not at all uncommon.

IV. Retention of opaque chyme for a longer period than normal, frequently associated with unusual filling of the entire duodenum.

This occurs also in cases of gall-tones and in periduodenal adhesions.

V. Exaggerated peristalsis and hypertonicity.

Gastric peristalsis is usually powerful at first, and the stomach is hypertonic, with a rapid passage of food through the pylorus. The stomach may begin to empty itself as soon as food passes into it, and may be empty in an hour; on the other hand the emptying time may be normal. Normally the barium passes through the entire duodenum in from 25 to 60 seconds.

VI. A point of tenderness over the bulbus duodeni.

Duodenal Obstruction.

This may be due to a kinking at the duodenojejunal flexure, spasm, cicatricial contraction, or it may be the result of new growths either in the intestine or outside in the abdominal cavity. There is an accumulation of barium in the duodenum with the presence of visible peristalsis and antiperistalsis. The cause of the obstruction usually cannot be determined by X-ray methods.

Jejunum and Ileum.

The barium meal passes through the small intestine very rapidly and is invisible, unless an obstruction is present. Obstruction leads to an accumulation of barium that is recognizable. In many cases of obstruction, the upper portion of the intestine may be enormously dilated and attain a diameter as large as the colon. On the anal side the intestine is small and empty. These obstruction are the results of malignant disease, tuberculosis, adhesions, contractions following chronic appendicitis, and kinks.

Four hours after ingestion there will normally be a collection of barium in the lower ileum, and after eight hours the ileum should be entirely empty.

The duodenum seldom undergoes any ptosis. It is more frequent in the ileum, but it is not of much significance, and is not an etiological factor in the production of constipation.

Ileal Stasis.

The following are the chief causes of ileal stasis:

I. Adhesions of the terminal ileum.

When these adhesions are extensive they give rise to the so-called Jacksonian membrane or Jackson's veil. Ileal obstruction may be found where no adhesions are present, and in some cases adhesions, although present, cause no obstruction. It has been stated many times that ileal stasis causes more symptoms of toxemia than does colonic stasis.

The following signs are helpful in determining the presence of ileal adhesions:

A. The distention of the terminal ileum, the ileal shadow being separated from the cecum by a more or less constricted area of ileum.

B. A point in the ileal shadow which does not move with respiration.

C. This point remains fixed also under palpation and may be painful. The ileum may be fixed at more than one point.

II. Spasm of the ileocecal sphincter.

At least an hour elapses between the arrival of the first barium-mixed chyme at the termination of the ileum and the passage of an appreciable quantity into the cecum. Some degree of ileal delay is perfectly normal. Ileocecal spasm is most marked in acute appendicitis, and is also present in chronic form.

III. Incompetency of the ileocecal valve.

This is demonstrated by the passage of the opaque enema beyond the ileocecal valve. Escape of the barium meal from the colon through the ileocecal valve into the ileum has considerably greater significance than the passage of the enema. It is quite generally agreed that normally the ileocecal valve is competent, and where incompetency has once been found, it will always be found at subsequent examinations. According to Case, ileocecal incompetency is probably the essential causative factor in the majority of cases of stasis in the terminal ileum.

IV. Malignancy of the ileocecal region.

V. Tuberculosis of the ileocecal region.

Extensive fixation or constriction of the terminal ileum, with more or less deformity and fixation of the cecum and ileum, is suggestive of tuberculosis. There may be the appearance of distended coils, of small intestine forming ropy, blotchy shadows. There may be a palpable tumor with distention of the terminal ileum.

Large Intestine.

While in the examination of the small intestine the food passes so very rapidly through them that it is nearly impossible to obtain a good picture of their outline, the shadow of the opaque meal when it reaches the large intestine is very clear, and the entire course, the cecum, the ascending colon, the descending colon, the pelvic colon, and the rectum are sharply outlined. The barium shadow appears in the cecum four and one-half hours after the food is swallowed, in the hepatic flexure in six and one-half hours, the splenic flexure in nine hours, and reaches down to the brim of the pelvis in eleven hours. The food while traversing the large intestine is subjected to various churning and propulsive movements as follows:

I. Lesser peristaltic movements, occurring at regular intervals. These pass the food either forward or backward and are the mixing movements of the intestines.

II. Greater peristaltic movements.

These closely resemble the former but extend over a much larger area. They also act in either direction.

III. Antiperistaltic movements.

These exist in normal intestines and by their action displace the intestinal contents backwards. Antiperistalsis is the prevailing movement in the proximal colon, the waves originating near the hepatic flexure at about the middle of the right half of the transverse colon, the so-called tonic-contraction ring. The waves pass down to the level of the ileocecal junction. They pass backward along the colon at the rate of four to five a minute and serve to retain the food in the cecum. The barium shadow can be seen for a longer time in the cecum and ascending colon than in any other part of the gastro-intestinal tract. This portion is often dilated and the haustra are often absent.

Antiperistalsis may be seen in the distal colon in some cases without causing symptoms of constipation. Exaggerated antiperistalsis may be regarded as a sign of serious bowel obstruction.

IV. Mass or storm-like movements.

These occur only four or five times during the passage of the food through the entire colon. They consist of a sudden forward propulsion of the food causing a disappearance of the haustra over a large area, and there remaining only a linear shadow in the contracted position. The mass which has been forced forward is sausage-shaped with smooth edges and no haustral segmentation. They usually occur in the transverse and the descending colon. They are the chief means by which food progresses along the colon.

In examining the large intestine we will find that the hepatic flexure is frequently ptosed, but usually causes no obstructive symptoms. On the other hand, downward displacement of the splenic flexure is rare, though it is usually distended with gas.

Under certain circumstances, as in duodenal ulcer, achylia gastrica, carcinoma of the stomach, producing pyloric insufficiency, and in some cases of perigastric adhesions, especially about the pyloric end of the stomach, the head of the barium column may reach as far as the middle of the descending colon within four or five hours.

The question of surgical treatment should be considered, in cases where the appendix is visible in the X-ray examination. The shadow of the appendix may persist for from 24 hours to a week.

Constipation.

There are two forms of constipation as recognized fluoroscopically.

First, that due to lack of muscular tone and motor stimuli. Here we find a mass of feces persisting a long time in a given area without any peristaltic movements.

Second, that due to excessive motility with antiperistalsis in a marked degree. In this form the lower colon and rectum may be filled in normal time, but the emptying time is delayed, due to retrograde movement.

In most cases of constipation the cecum and ascending colon are much dilated. In constipation the food accumulates in the colon and the barium shadow indicates where the delay occurs. There may be a delay in the passage through the colon, or not until after the rectum is reached. If the rectum is clear of shadows after emptying, the constipation is due to the delay in the colon.

The Barium Clysma.

In the study of constipation and intestinal obstruction the barium clysma is of much value.

The large bowel should be thoroughly emptied by enemas. Three pints of barium suspension is placed in a container two to two and one-half feet above the patient and injected until the colon is filled. The progress of the barium through the colon is carefully watched and note made of any narrowing, spastic or organic, neoplasms, adhesions and kinks, and competency of the ileocecal valve.

Cecum mobile, an excessive mobility of the cecum also called typhlocolitis, has been blamed for some cases of constipation, but it is of minor significance.

Tuberculosis of the large intestine and ileocecal tuberculosis are much more frequent occurrences than tumor as a cause of intestinal stenosis. Such a condition may be expected if the barium meal does not reach the ascending colon in five hours.

Redundancy of the pelvic colon, has been held to be the cause of constipation with abdominal pain and colic. The normal length of the pelvic colon is from six to ten inches. If longer than this it may be considered redundant.

Following are the fluoroscopic appearances in cases of carcinoma of the colon.

I. Delay in the onward progress of the barium shadow, on account of the intestinal stasis, proximal to the obstruction. Colonic stasis may last from 48 hours to several days.

II. Arrest in the progress of the barium clysma.

Arrest may be complete, when the carcinoma entirely obstructs the passage, or partial.

III. Dilatation of the colon on the proximal side of the lesion.

This sign when present is always evidence of a serious obstruction in a funnel shaped process or there may be an irregular filling defect, characteristic of a cauliflower carcinoma.

IV. There may be a palpable tumor coinciding with the filling defect.

V. Exaggerated antiperistalsis.

This may be found in any kind of bowel obstruction, malignant, benign, organic or spastic, and varying in form with the degree of obstruction.

From the foregoing paragraphs it may be seen that screen work in thoracic and abdominal diagnosis may bring out many pathognomonic signs of disease, and as this form of diagnosis is so valuable, we must undoubtedly be prepared to make use of it. In the treatment of fractures and dislocations I believe that in a short time no other form of treatment will be accepted by patients or attempted by the surgeon.

SHOULD THE STATE MAKE WASSERMANN EXAMINATIONS AT A NOMINAL FEE?

BY W. F. LORENZ, M. D.,

DIRECTOR WISCONSIN PSYCHIATRIC INSTITUTE.

MENDOTA, WIS.

The following proposal, recently authorized by the State Board of Control, is made to the Medical Profession of the State of Wisconsin. Their indorsement and coöperation is essential for the final success of the scheme to be suggested.

The recently established Psychiatric Institute at Mendota is equipped with a Laboratory having the facilities to make Wassermann tests on a large

scale. Thus far the examinations have been made for the inmates of the various charitable and penal institutions. It is now proposed to enter upon a wider field and offer to the medical profession an opportunity to have Wassermann examinations made at a minimum cost.

The plan is to supply the physician upon request with a sterile hypodermic of a suitable kind, sterile needle and vial or Wright's capsule; the attending physician to secure the blood specimen or spinal fluid and return the same in the original package through the mails. With this specimen certain data are requested. The test will be made at the Laboratory of the Psychiatric Institute situated at Mendota. A fee of a dollar and a half to accompany the specimen,—the Board of Control has authorized this as the minimum fee for the present. If a sufficient number of examinations are requested, this fee of a dollar and a half may be reduced to one dollar.

We have experimented at the Laboratory with various containers and believe that a suitable vial has been selected. From our experience with the other State institutions, we conclude that this scheme of sending blood or spinal fluid through the mails is practicable. The physician taking the blood must simply secure a sufficient amount (at least two c.c.), place the same in the sterile vial and observe a reasonable amount of caution to prevent contamination. The blood will clot within a few minutes and the serum separate after an hour or so. The specimen can then be mailed or left on ice until the time of mailing. The fee to the Institute for the Wassermann examination is to be paid by the physician. The relationship contemplated is between physician and Institute. The information requested with the specimen becomes an Institute record and as such, is not a public record. It will be filed under the name of the physician sending the specimen. A report upon the examination will be promptly submitted to the physician who supplied the serum.

The reason for this offer is to partially fulfill the purpose of the Psychiatric Institute, namely, to assist in the care and treatment of the insane. It is maintained that the best care is prevention. While much still remains to be known concerning the etiology of insanity, at least this much is known, that syphilis contributes a very large share to this alien class. It is variously estimated from ten to twenty per cent. In syphilis we have a preventable cause and it is the purpose of the Institute to make use of this established fact and become of practical assistance in a campaign of prevention. No better scheme suggests itself than to place in the hands of the general practitioner an aid in the diagnosis of syphilis and a criterion of its cure.

Concerning the value of a Wassermann examination as an aid in the diagnosis of an obscure syphilis or the confirmation of a probable case, little needs to be said. Its wide and general use establishes the test as one of our recent invaluable aids to clinical medicine. Striking evidence of this becomes almost our daily experience. Since these tests have been made for the various State institutions, cases that presented clinical pictures fairly typical of conditions other than those usually associated with syphilis gave positive reaction. A single test was not considered final. In these cases that showed such few clinical signs of syphilis, a second, third and fourth test confirmed the original and established beyond doubt the existence of this disease. We have thus far made over five hundred tests, a small number upon which to base conclusions it is true, yet we have found thirteen per cent. undoubted positive cases in those examined. Granting that this percentage is high at present yet from past statistics taken over a period of several years, the occurrence of syphilis as the essential etiological factor in the development of insanity can be safely placed at ten per cent. of all admitted. To reduce this ten per cent., to wipe it out entirely, if possible, is the reason for the proposal of making Wassermann examinations for the general practitioner at cost.

Granting that ten per cent. of our total admissions to the State institutions are attributable to syphilis, that approximately twelve hundred are admitted each year, this would mean 120 cases. Placing the cost of maintenance at $160.00 per capita for one year and the duration of life at the institution at five, it would mean an expenditure of approximately $100,000 in five years for the care of these 120 cases that are preventable. In addition to the actual outlay for maintenance, the additional factor of removing a producer from the community must be considered. To attempt a remedy for this tremendous drain is the purpose of the proposal offered in this communication to the medical profession.

How will the scheme to make Wassermann examinations at cost for the general practitioner meet the problem in mind? First, the prevailing cost of five to ten dollars is almost prohibitive in

a large number of cases. These cases are so situated socially that if syphilis is unrecognized and not adequately treated they will ultimately, if late nervous manifestations develop, become inmates of State charitable institutions. By fixing the cost of the Wassermann at a dollar and a half or possibly one dollar, it reaches practically all classes of society. At present with a charge of five or ten dollars, the general practitioner who spends time and money in securing a specimen is frequently in a position where no fee accrues to him for his work. This injustice is obviated in that he can charge an adequate fee for his services in obtaining the specimen and yet not bring the cost of the test much over one-half of the minimum now generally charged, that is five dollars. In other words, if he elects to charge at the rate of an office call, say one dollar, the Institute receives a dollar and a half or possibly one dollar, the patient receives the entire service for two dollars or two dollars and a half, which is half the minimum cost usually charged. As a result of this just arrangement, more Wassermann examinations will be made; cases in which syphilis is suspected will not be subjected to the policy of watchful waiting but will be diagnosed at an early date.

The force of this scheme does not lie in the earlier recognition or discovery of syphilis but the results are expected from the control of treatment, Important as the Wassermann is in the recognition of syphilis, this importance is complete overbalanced by its value as an indicator of the effect of treatment. Every clinician knows of the almost miraculous disappearance of visible evidence of syphilis under adequate treatment and every clinician knows equally well of the latency of this disease—its continuance without discernible evidence, its later manifestation following upon years of apparent good health during which the patient felt himself entirely cured and to all outward appearance and careful clinical examination this feeling of health seemed well founded. In the detection of this latency lies the great value of the Wassermann examination and particularly in connection with the purpose of preventing the conditions that ultimately result in State charges.

As an indication of the establishment of a cure. the Wassermann examination remains unexcelled, —the present day requirement is a series of negative findings for a period of two years after all treatment has ceased. Herein lies the full force of the plan suggested. It is maintained that at a cost of five or ten dollars, the average patient refuses these most valuable and indispensable tests during a period when he feels perfectly well. In fact the physician hesitates to suggest the test because of the cost in the instance of a patient with limited income. If, on the other hand, the test could be made for little more than an office call, it is probable that the patient will follow the advice of his physician and return for a test at intervals following treatment.

During the course of treatment it is of value to have the tests made and thereby learn concerning the effect of the remedy employed. At any rate by bringing the cost of the test within the means of the vast majority, it is believed that treatment will be continued until the results show a persistently negative Wassermann. With such results, paresis and tabes will become a rarity within a few years and a burden will be taken from the State.

In this plan to make Wassermann examinations at cost, the so-called "Eugenics" law and its requirement is not considered. The laboratory equipment at the Institute is insufficient to handle this large number in addition to those required for the purposes set forth in this communication. Without additional equipment and help the tests for the Eugenic law cannot be made at this Institute. Were the law to be so altered or amended as to require a test in only such cases where there is reason to suspect syphilis then I believe with a little additional help we could make such examinations. The purpose of this plan, however, is the prevention of late syphilitic conditions and as such applies particularly to cases under treatment, therefore the requirements of the Eugenic law are not considered in the plan herein suggested.

This proposal is made to the general practitioner, his opinion is requested and any suggestions to further the general purpose are solicited. He must decide this question. From a few personal interviews held with a number of men in practice, I am of the belief that the plan supplies a well recognized need. This remains to be seen.

The situation at present is as follows: we are prepared to make Wassermann tests at cost. This cost is based upon a large number of examinations and must not be taken as an adequate fee when these tests are made in a less number. In other words a fee of five or ten dollars is not exorbitant when the number of examinations made is small. In this plan we have in mind, only those who cannot afford private laboratory tests. In the instance of

one who is so situated that the prevailing private fee is in accord with his income, it is expected that the general practitioner will, in such instances, have these examinations made at a private laboratory and not take advantage of the Institute whose work is charitable to a certain extent.

Suggestions are solicited, opinions pro and con are invited. If a sufficient number of physicians express their willingness to co-operate in the plan suggested in this communication, the work will start at once. For the present at least, limitations as to number must be made. From the work now going on, I believe that approximately one hundred and fifty tests per week can be made in addition to those that come as a routine from the various institutions. By sending out the materials to collect blood, we will be in a position to control the number. Furthermore it will be suggested that the blood be sent upon certain days of the week so that the specimen arrives at Mendota on a Tuesday, Wednesday or Thursday.

In conclusion, should this plan be adopted, every physician who coöperates becomes a worker in the big field of preventive medicine. His efforts will be in the direction of public welfare. He contributes to results that are not fanciful but must follow as a matter of course, the reduction of a great burden upon society.

TWO INTERESTING LETTERS CONCERNING THE CAUSES OF CHOLERA, AS UNDERSTOOD IN 1849.

BY J. H. VOJE, M. D.,
OCONOMOWOC.

Some time ago Miss Julia A. Lapham, Secretary of the Waukesha County Historical Society, Oconomowoc, Wis., presented me with two original letters, correspondence which had passed between Dr. Increase A. Lapham, of Milwaukee, Wis., the well known geologist, and Dr. Chas. Jackson of Boston, of sulphuric ether fame. The latter though a physician was best known as a geologist and chemist, for it was he who induced the denist Morton to experiment with ether as an anesthetic in 1846 and who successfully demonstrated ether anesthesia the same year in the Massachusetts General Hospital amphitheater before the Harvard Medical class, Dr. John C. Warren operating.

These letters clearly picture to us the slow and patient groping of scientific men for the truth in the course of epidemics and infectious diseases during the early part of the 19th century.

They also give excellent evidence that we then had in America highly educated men deeply in earnest in the pursuit of their studies and investigations regardless of reward, sparing neither their time nor their personal resources.

It is interesting to note how near these two scientists came to the truth of the cause of epidemics.

Dr. Jackson speaks of a miasmatic effluvia probably of organic origin (the germs); but both he and Dr. Lapham adhere to the theory that geologic limestone formation and calcareous matter in drinking water are the exciting cause of cholera (and of goitre in Switzerland).

Sanitation, under this belief, would mean the avoidance of limestone subsoil for habitation.

It is now plain to us that limestone subsoil may prove harmful, if not considered or managed properly, as a place for habitation; not on account of calcareous matter but because of its arrangement in layers and of its impermeability. Between these layers germ laden water and foul fluids are conducted and drained into cisterns and wells, etc., thereby polluting them.

The porous condition of limestone, forms an excellent culture bed for the rapid multiplication of germs, under favorable conditions, in that way vastly increasing the virility of the water passing between them, while a clear sandy or gravelly subsoil would not only filter impure water but would also destroy, even digest pathogenic microbes.

It is now contended that goiter and cretinism, prevailing in Switzerland in certain limestone districts, are caused by a germ infection; and if we consider the whole aspect of these cases, a germ infection as a cause seems most plausible.

But the letters which will be of interest to the medical profession and which I thought it my duty to perpetuate and place on record in our State Journal, speak best for themselves.

It may be proper to precede the letters with short biographical sketches of Dr. Jackson and Dr. Lapham.

Of Dr. Increase A. Lapham, whose centenary was observed on the 7th of March, 1911, it has been truly said "he devoted his life to the furtherance of the best interests of the country in meteorology, geology and the sciences."

His outdoor life as a rodman, assistant and later chief engineer on many of the important canals of this country gave him an opportunity of observing the birds, the plants, the rocks and the weather.

As a result of such observations he became convinced that a practical application could and should be made of scientific knowledge that would greatly benefit mankind.

In later years, knowing that the course of storms across the country could be traced, Dr. Lapham believed it would be possible to predict coming storms and prevent much of the great loss of life and property on the lakes. And by many years of unselfish labor, he finally secured the legislation that authorized the storm signal service, now the U. S. Weather Bureau.

During the epidemic of cholera at Sandusky in 1849, Dr. Lapham's attention was called to a paper on "Medical Geology" by Dr. Chas. T. Jackson of Boston, and he wrote the accompanying letter with the request that it be presented to the American Association for the Advancement of Science, if Dr. Jackson considered it of sufficient importance.

Dr. Chas. T. Jackson was a descendant of Abraham Jackson, one of the first settlers of Plymouth, Mass. On his mother's side he was a descendant of John Cotton, who revised and corrected John Eliot's Indian Bible.

Jackson was a nature lover and frequently made expeditions with distinguished men of science of the day; and on one of them, in company with Francis Alger, he made a mineralogical survey of Nova Scotia.

He began his medical studies in Boston, finishing them in Paris.

He made a pedestrian tour through Europe lasting several years, from 1829 to 1832, reaching Vienna during a cholera epidemic; and he devoted much time to the study of the causes, cure and prevention of such epidemics.

He first made known to the public the wonderful mineral resources of the wilderness on the south shore of Lake Superior; and he received many honors on account of his discovery of anesthetics.

In 1832 while returning from Europe on the ship Sully, Dr. Jackson related to a number of friends an experiment in electricity he had witnessed in Paris. Among the passengers was Prof. S. F. B. Morse, and when Dr. Jackson said he had seen an electric spark obtained by a magnet and that the current of electricity conveyed this spark for some distance along an iron wire, an idea was suggested to Prof. Morse the elaboration of which resulted in the invention of the electric telegraph.

The list of papers written by Dr. Jackson for scientific societies and publications shows plainly that he made or attempted to make practical use of his scientific knowledge.

MILWAUKEE, WIS., Aug. 7th, 1849.

Dr. C. T. Jackson,

DEAR SIR:—

The subject of "Medical Geology", as it has been called, to which you have drawn the attention of the public by a letter published in the newspapers, is one of very great importance and should not be overlooked in the surveys and reports made by the geologists under the authority of the general government of the several states.

Your sugestion that there is a greater amount of cholera in limestone districts, than in those based on granitic and other primary rocks, is now receiving melancholy proof and confirmation at Sandusky City, Ohio.

In the course of your investigation of the geology of the west, you must have discovered places where over considerable areas the rock is entirely bare of drift or soil of any kind. They appear to have been points over which the currents of the ancient ocean swept with unusual force and upon which consequently no loose materials, no clay, sand, gravel or boulders were deposited. Several such places are to be found in the region of the Upper Lakes.

Sandusky City is one of them. The "Corniferous limestone" rock here forms the surface of the ground on which the city is built. There is not soil enough upon it to support shade trees on the streets and public grounds. A lady of great taste and intelligence informed me that she was compelled to send into the interior for earth with which to make a flower garden and shrubbery about her house.

No other rock is found here but limestone. Now, if the suggestion above referred to is correct, we should, a priori, expect a greater development of cholera at Sandusky City than at other places; both as to its amount and malignancy and the facts are precisely in accordance with this view. It commenced suddenly and with great severity on the 24th of July; there being thirty-six deaths on that day. Great panic immediately prevailed and a large proportion of the inhabitants fled. Business was almost entirely suspended. When we reflect that the population of Sandusky City is only about 2,500 this will be considered an unusual degree of mortality. The same proportion in the city of New York would carry off 6,000 persons daily.

From that time to the present the disease has continued with but the slightest abatement in its severity, the interments varying from 12 to 33 daily. The physicians of the place became exhausted and worn out by their constant attendance on their patients; and several others from Cincinnati, Cleveland and other places with great humanity and heroic courage came to their assistance.

Dr. Ackerly of Cleveland writes he is convinced that the cholera at Sandusky City is of a more severe and malignant form than at other places in the country.

"In some portions of the town" he continues, "inhabited by the German and Irish population, the disease has become infectious, a cholera atmosphere (or stench) can be observed along the entire length of some streets, but more particularly in the vicinity of houses where there are many sick and dead."

I am induced in view of this new branch of Medico-Geological inquiry to address you this letter in the hope that the facts here set forth may induce men of science to give it their attention in their future investigations in these subjects.

Within the last day or two there has been a falling off of the number of deaths, and hopes are now entertained that the disease is permanently abating.

Yours truly,

I. A. LAPHAM.

BOSTON, MASS., Sept. 6th, 1849.

I. A. LAPHAM, ESQ.,

DEAR SIR:—

I thank you for the honor you have done me in sending through my hands a letter to our Association for the Advancement of Science.

I read it to the meeting, and the subject was fully discussed; but I see by the papers that I send you that the discussion is only partly reported. I gave a history of the origin of the views I had published and laid out quite fully all the hypotheses that had been proposed to account for the occurrence of Asiatic cholera and criticised them.

I regret that our phonographic reporter was not present at the time so as to have given full notes of the discussion. My views coincide with yours. I regard the cholera as an epidemic disease originating from miasmatic effluvia probably of organic origin and perhaps may consist of living fungi or animalcules floating in the air near the surface of the earth.

I regard the action of calcareous water as the exciting cause of the disease to which all who are exposed to the miasms are predisposed. It is not to be supposed that there are not other exciting causes that may operate in particular cases. They do exist and do act in all regions to a limited extent, but calcareous water is a general, wide-spreading excitant operating in whole districts and on a large population at once. The facts which lead me to the opinion that the cholera prevailed chiefly in calcareous districts were observed by me in Europe in 1831-2, and were extended and in a great degree confirmed in this country in 1832-3.

I collected maps giving the track of the cholera from Indian to Vienna while in Europe, and I collected also all the works I could find published on the subject in Austria, Russia, Poland, Bosnia and France. It was obvious that the disease followed the river valleys but it did not follow the current of the water, but came up the Danube and it took its abode chiefly in the basins of Vienna and Paris—both of which are calcareous and in both these cities the waters of the wells and rivers are almost saturated with carbonate of lime.

On comparing Boue's Geological Map of Europe with the track of the cholera, it became instantly obvious that the whole track was over calcareous rocks and soils. This was the origin of the theories and hypotheses I published in 1832, 1834, 1836 and 1839. It was a simple statement of facts with an endeavor to account for them by the influence known to be exerted on the bowels by calcareous waters. The idea seemed to be so obvious that I had no doubt that others would at once observe the facts and draw the same inferences.

Such has been the case and I doubt not that many physicians in this country suppose that since their ideas on this subject were original with them as they well might be in so obvious a case as this, that they originated the theory. I find that such is the case for not only have Americans claimed it (Mr. Lea of Ohio) but one European geologist Nevee Bouvie of Paris,—who says that he observed in 1832 that the cholera was most prevalent on "friable soils" and would lead the reader to imagine that since tertiary soils frequently are "friable" that he had conceived that calcareous matters had something to do with the origin of cholera. This publication dates this year, so he is rather late, as all the other claimants here are.

It is not a matter to dispute about, for it is too serious an affair and time had better be spent *in getting at the facts*, that we may be prepared when another visit of this scourge shall take place. The subject of Medical Geology, is, as you have observed, of great importance. The first hint at the subject is in McClelland's Geology of Kemdon in India.

He traces the endemic disease goitre to calcareous soils on elevated and cold mountain districts and says the disease does not occur on the primary rocks of India. In this country there are a few exceptions to this law—a few cases of goitre occurring on the White Mountains of N. H. Dr. McClelland's theory holds good in Sion, Switzerland, the great nidus of goitre and cretinism of the Alps.

Goitre occurs also in the Madawaska region in Maine where the soil is calcareous and the rocks are silurian limestone. The country is not high but it is as cold as an Alpine district.

The Boston Medical Magazine published in the autumn of 1832, in which my original article on the "Cholera in Vienna" was published, is out of print and I have not even a copy. My lectures on geology and on the natural history of water, I have single copies in my library, but the magazine is now out of print and copies can only be occasonally obtaned at the second-hand book stores. This I regret because I wished to send you the original papers that I published on Medical Geology.

You may perhaps find a copy of "Light's Scientific Tracts for 1836" somewhere in the west. In that work you will find a full account of the views I entertain with regard to the influence of calcareous matters in waters in producing cholera. My first lecture on geology was reported in the newspapers of Boston, Portland and Bangor, and in that I had a section on Medical Geology and gave the facts concerning the cholera.

I am much obliged to you for the kind manner in which you have noticed my humble labors and shall be happy to hear from you again.

Respectfully your obedient servant,

CHARLES T. JACKSON.

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EDITORIALS

PROGRAM ANNOUNCEMENT.

It is none too early to begin work on the program for the October meeting if we are to come up to the high standard established at Oshkosh. Any skepticism as to the superiority of the symposium plan of conducting at least the major part of the program must have been dispelled by the excellent results attained at our last meeting. As a preliminary announcement your committee wishes to state that a part or if necessary the whole of Thursday, the "big day" of our meeting will be set aside for an exhaustive discussion of the *Cancer Problem*. This subject is certain to hold the interest of the general practitioner and the whole "57 varieties" of specialists. The Committee is ready to hear from volunteers who will write upon or discuss any phase of this problem in a way that will command the attention of our meeting. Tabulated observations upon cancer patients followed up for long periods of time will be especially welcome.

The question of compensation for accidents has forced itself upon the medical profession the past year or two as never before, and should furnish material for a symposium of exceptional interest. Particularly troublesome are certain borderline cases such as traumatic (?) hernia, cancer of alleged traumatic origin, and regional infections following contusions. Think it over and be ready to make this particular symposium a live one.

Your Committee is in favor of encouraging a freer discussion of the papers read, even if it should be necessary to reduce the number of papers.

Kindly address your suggestions and subjects for papers offered to the undersigned.

CHESTER M. ECHOLS.
Chairman Program Committee.
800 Majestic Bldg.,
Milwaukee, Wis.

THE GOOD HEALTH OF WISCONSIN.

What is known as the "Registration Area" of the United States is that portion of the country in which the vital statistics are kept with sufficient accuracy to make them reasonably dependable. In that area are now included about two-thirds of the population of the nation, a proportion large enough to make a study of the mortality statistics interesting and enlightening.

The reports for the calendar year 1913 have just been published and the figures in regard to Wisconsin are very gratifying to all who have the health and welfare of its people deeply at heart.

For the year 1913 the mortality rate per 1,000 population in Wisconsin was 11.5, a figure which was exactly equalled by Colorado, and was surpassed in excellence by only three other states; Utah with a rate of 11, Minnesota with 10.4, and Washington with 8.5.

Utah, Colorado and Washington are all states where special conditions of population still exist, so that the only rival in our own class is Minnesota and her excellent record is one which we may well strive to equal.

In the table showing the mortality rates for cities of 100,000 and over for the same year, 1913, the results are equally gratifying. The mortality rate for Milwaukee is 12.7 per 1,000 population and except on the Pacific coast this record is surpassed only by Minneapolis with 11.6, and St. Paul with 11.

Of the western cities of 100,000 or over Oakland, California, has a rate of 12.5, Portland 9.5, Spokane 8.9, and Seattle 8.4.

Thus we see that while there are still records worth striving for to the west and northwest of our beloved state, the "Wisconsin Idea" of living as long as possible may be said to have no competitors between the Mississippi and the Atlantic.

AN ENLARGED LEGISLATIVE COMMITTEE.

At the January meeting of the Council the Committee on Public Policy and Legislation of the State Medical Society which had consisted of three members, Drs. J. P. McMahon, Milwaukee, Chairman, C. S. Sheldon, Madison, and J. J. McGovern, Milwaukee, was enlarged by the addition of Drs. Arthur G. Sullivan, Madison, A. S. Loevenhart, Madison, Philip F. Rogers, Milwaukee, S. G. Higgins, Milwaukee, and G. H. Fellman, Milwaukee.

This is an excellent committee, but no committee can do all the work of all the members of the State Society. We must give the committee the support of our active, personal co-operation whenever our efforts may be needed.

THE EARLY RECOGNITION OF TUBERCULOSIS.

None of the papers presented at the last meeting of the State Medical Society brought out a more interesting discussion than that on the subject "Are Physicians Square with their Tuberculous Patients?", by Drs. Dearholt and Cheadle, which is published in this number of the Journal. This paper and its discussion ought to be read by every man practicing medicine in Wisconsin. And with the reading ought to go a thorough soul-searching, to see if any of the short-comings described in it are our own pet vices. A paper of this kind should be met, not by an attempt to justify mistakes or sins in diagnosis which we may have committed in the past, but by a determination to find out wherein we have erred that we may correct our ways in the future.

It has been well said that the first step in the early diagnosis of tuberculosis is to know when to suspect it. The next point to be remembered, one which was well brought out in the discussion of the paper under consideration, is that we must recognize that the diagnosis of early tuberculosis is one of the most difficult tasks in medicine. Knowing this to be the case the general practitioner should insist more frequently upon early and if necessary repeated consultations in suspicious cases.

As Dr. Vaughan pointed out in the address which was published in the January Journal, "there is no other grave disease so easily curable as tuberculosis," but as its curability depends upon its early recognition the patient has the most tremendous interest in having the matter promptly settled.

Steadily pounding away has brought about a recognition of the need of prompt operative interference in acute appendicitis, of radical operation in cancer, and of the efficacy of fresh air in pneumonia, and nothing but continued effort of the same kind is needed to spread the demand for early consultation in suspected tuberculosis.

Even with the most conscientious efforts, however, the condition will often remain an obscure one for considerable periods of time. But to remove a reproach from the medical profession we should see to it that in our own patients the diagnosis is reached at the earliest possible moment. And a definite symptom like hemoptysis should never escape our vigilance. No amount of explaining can justify a failure to recognize the serious significance of this symptom.

It is probably true that the conditions portrayed by the writers of this paper may give an exaggerated idea of medical incompetence on account of the tendency to untruthfulness so frequently encountered among the tuberculous, and it may also be true that the picture is one of the past and that a similar survey a few years hence would show better conditions.

Certain it is that the present generation of medical students is receiving better training in the early recognition of tuberculosis than was given to those who preceded them. Nevertheless the suggestion made by Dr. Beffel in discussing this paper, that each student must have examined ten suspicious chest cases, under competent super-

vision, before being permitted to come before the State Board of Medical Examiners, seems to us a good one, and would go far to make sure that the future practitioners of Wisconsin have a good working knowledge of the possibilities and of the limitations of chest diagnosis.

After making every allowance for untruthfulness and exaggeration there still remain causes enough for dissatisfaction with our present performances in the early recognition of pulmonary tuberculosis, and our determination must be to attack the problem with greater earnestness and more watchful alertness.

THE HORRORS OF PEACE.

One thing war does for a nation is to clear its vision. It rudely dispels the intellectual haze in which many people love to spend their lives and in which all sense of true proportion is lost. It brings out in startling clearness the real fundamentals of existence.

When we think of the situation in Europe today, where every great nation has its ten of thousands of wounded to care for, its hundred of thousands of soldiers in camps which must be kept sanitary, and its hundreds of villages, towns, and cities where the ordinary administration has broken down entirely and where, nevertheless, the control of sanitation and the prevention of epidemics are absolutely essential, we realize that they are face to face with the real facts of life.

We cannot by any stretch of the imagination conceive the upper legislative body of Germany, France, England, or Russia allowing one of its members to occupy two days of its time with a talk on Christian Science such as that with which Senator John D. Works of California edified the Senate on January 5th and 6th of this year. This speech, which, of course, is printed and distributed at the expense of the United States Government, occupies 109 closely printed pages, and would equal in length about four entire issues of this Journal.

After looking over this speech with some care the present writer feels a strong desire to start a Society for the Prevention of Cruelty to Senators, unless some existing organization is able to cope with the situation. Perhaps the Society for the Prevention of Useless Noises might be induced to come to the rescue. Unless help is found the situation of the hapless members of the Senate is pitiable. Perhaps when Senator Works rises again he may read Mother Eddy's Science and Health into the records and circulate that as a government document.

Senator Works has gathered testimonials from New Hampshire to California and from Minneapolis to Louisiana, fifty-seven in all. They are as fine a line of testimonials as we have ever read, fully equal to anything put out by Duffy's Malt Whiskey, Radam's Microbe Killer, Kilmer's Swamp Root, or the ever healthful Lydia E. Pinkham,—but not any better. Whether viewed as a specimen of oratory or as a reasoned argument the whole effort is ludicrous.

If recriminations were to be the order of the day the writer feels quite sure that he could collect "fifty-seven varieties" of testimonials in regard to the *sins* of Christian Science without even going outside the city limits; fatal nutritional neglect of infants, neglect of diphtheria, permitting a child to suffocate while the healer mumbled prayers at its bed-side, neglect of injuries resulting in permanent disability, neglect of the early warnings of the albuminuria of pregnancy, neglect of quarantine permitting the spread of the eruptive fevers, neglect of timely warnings in appendicitis and cholecystitis and pancreatitis, causing unnecessary deaths. But nothing would be gained by such a recital. "The truth is great and will prevail," and all we need to care for is to see to it that we are earnestly striving for the truth in matters medical.

When the emergency arises in America to try men's souls as they are being tried today in Europe the medical profession will not be found wanting, and the chaff of Christian Science will be found, where Senator Works really belongs, in the dust-bin of oblivion. Truly peace has its horrors as well as war.

MARRIAGE AND VENEREAL DISEASE ACT.
(EUGENIC LAW.)

In support of the amended marriage and venereal disease bill, the Committee on Public Policy and Legislation of The State Medical Society has to state that the original bill was drafted and passed without having been reviewed by any of the members of the Committee of the State Medical Society charged with the responsibility of keeping track of questions of health and sanitation measures. The present act is anomalous and inconsistent in different particulars. The princi-

pal difficulty confronting conscientious physicians who desire to co-operate in carrying out the provisions of the act was that the prescribed certificate required them to certify that all of the recognized laboratory tests had been employed in each case, the minimum cost of which is $15.00, and an individual applicant may present conditions requiring laboratory examinations requiring minimum charges amounting to $25.00, whereas the law authorized only a charge of $3.00. The only alternative was to refuse to conduct the necessary examination, to pay for them from their own funds or to insist upon the applicant paying for them. The latter practice being the one employed by the great majority, thereby cooperating as far as practicable to afford unsuspecting prospective brides the protection which the act was intended to insure and at the same time manifesting due respect for the Wisconsin statutes. It is the opinion of the Committee who drew the bill that no measure can be drawn which will afford the protection desired, that the principal benefit accruing from any such measure lies in its educational value, that the present act has by virtue of the publicity given its anomalies and inconsistencies rendered a material and far reaching educational service, that, inasmuch as the present law is on the statutes, an effort should be made to amend it to the end that the attempt to protect and improve the race by a legislative means may be given further observation and trial. The organized medical profession never assumes a nihilistic attitude in matters of this kind, but, on the contrary, should and always does render every such cause, every possible service and assistance.

The following substitute for the present law is proposed:

SECTION 1. All persons contemplating marriage shall within fifteen days prior to applying for license to marry be examined as to the existence of active pulmonary tuberculosis or communicable venereal diseases, and it shall be unlawful for the county clerk of any county to issue such a license to any person who fails to present and file with such county clerk a certificate duly signed by a reputable licensed physician, setting forth that such person is free from said diseases so nearly as he can determine by the application of the usual and ordinary tests and methods of examination. Said certificate shall read as follows, viz.:

I, ..., a licensed physician, do hereby certify that I have this .....day of ....., 19...., examined..... ..... and that so far as I can determine by the application of the usual and ordinary tests and methods of examination he or she is free from active pulmonary tuberculosis and communicable venereal diseases.

(Signed) ....., M. D.

2. The fee for such examination, to be paid by the applicant at the time the examination is made, shall not exceed $5.00.

3. The county physician of any county shall, upon request by the applicant, make the necessary examination and issue such certificate, if the same can be properly issued, without charge to the applicant if said applicant be indigent.

4. Whenever, in the opinion of the examining physician, it is not possible by ordinary methods to exclude with sufficient certainty the existence of syphilis, he may refuse to issue a certificate until the applicant has submitted to the higher laboratory tests and such tests have proved negative. Such higher tests may be made by any properly qualified laboratory specialist or by the State Laboratory of Hygiene.

5. In any case wherein the certificate of health shall be refused and the applicant shall make and file with the county clerk of the proper county an affidavit setting forth his belief that he or she has not had a fair and impartial examination and that he or she is entitled to a certificate of health, it shall be the duty of the county clerk to certify such affidavit at once to the county court without formality or expense to the applicant. Such affidavit and arguments pertaining thereto shall be heard by a judge of said court at the earliest time practicable without a jury in court or in chambers during the term or in vacation as the case may be. Notice of the time and place of such hearing shall be given to such applicant and to the examining physician by mail. It shall be discretionary with the judge after listening to arguments on both sides, if both are represented, either to confirm the findings of the physician, in which case no certificate of health shall issue, or to appoint a commission of three other reputable licensed physicians who shall examine the applicant and report their findings to the judge and the issuance or non-issuance of a certificate of health shall be in accordance with the findings of any two or these three physicians.

6. Any person a resident of this state, who, with intent to evade the provisions of this act, shall go into another state and there have a marriage solemnized and who within one year from date of such marriage shall return and reside in this state, shall upon information given to the district attorney of the county in which he resides be required by him to file with the county clerk a certificate of examination from a reputable physician as set forth in this section. Any person violating the provisions of this subsection shall be punished by imprisonment in the county jail for not less than thirty days or more than one year.

7. Any county clerk, who shall unlawfully issue a license to marry to any person who fails to present and file the certificate provided by subsection 1 of this section, shall upon proof thereof be guilty of a felony and shall be punished by imprisonment in the state prison not less than one year.

THE HARRISON LAW AS APPLIED TO PHYSICIANS.

After three years' discussion, the Harrison bill has finally become a law, being signed Dec. 17, 1914, and becoming effective March 1, 1915. Its object is to limit the sale of habit-forming drugs to legitimate purposes by requiring a record of all transactions in such drugs. Any physician who dispenses or prescribes any drug preparations containing opium or coca leaves or any of their derivatives is required to register with the collector of internal revenue of his district and to pay an annual registration fee of one dollar. This is prorated for the period from March 1, 1915, to July 1, 1915, at 34 cents. Physicians dispensing their own drugs must use the blank prescribed by the commissioner of internal revenue in ordering their supplies, and must keep a record of all habit-forming drugs dispensed to patients. Physicians prescribing drugs must sign their full name and give their registration number with the name and address of the patient on each prescription. All persons having such drugs in their possession March 1, 1915, must make an inventory of such drugs showing exactly the amount on hand at that time. This inventory, which must be verified by affidavit, is kept by the individual and is not filed with the commissioner. One important point of controversy between the physician and the druggist is settled by the ruling of the commissioner of internal revenue. Only the original of prescriptions containing these drugs can be filled. The refilling of prescriptions is forbidden. Patients desiring an additional supply of such drugs must procure an original prescription from the physician. The law also requires a general registration of all physicians, dentists, druggists and veterinary surgeons, and only such persons will be allowed to dispense or prescribe these drugs. This law is a legislative experiment. Some time, many regulations and several amendments will probably be necessary before it can be reduced to smooth working order. In the meantime, physicians should at once take two precautions: They should make immediate application to the deputy commissioner of internal revenue of their district for registration, and they should make an inventory of all drugs and drug preparations in their possession containing opium or cocain, so that when the law goes into operation, March 1, each physician may have written evidence of the amount of these drugs in his possession at that time. Whether or not it will be possible to put so sweeping a measure into effective operation in so short a time remains to be seen; but physicians can give material assistance in the enforcement of the law, and can relieve themselves of any danger of embarrassment by taking these two steps at once.—*Jour. A. M. A.*, Feb. 6, 1915.

RESOLUTIONS ADOPTED BY THE FACULTY OF THE MARQUETTE UNIVERSITY SCHOOL OF MEDICINE, UPON THE DEATH OF PROFESSOR ALBERT F. BORETTI.

In the death of Dr. Albert F. Boretti, late professor of pathology and bacteriology, the Marquette University School of Medicine has lost an able, industrious, and enthusiastic teacher, who was uncompromising in his devotion to the highest scientific ideals.

His constant aim, as a teacher, was to imbue the student with the idea of his obligation to humanity, and loyal devotion to his profession and public welfare.

His enthusiasm for the advancement of scientific knowledge, promised a career of great achievement.

We, the members of the faculty of the *Marquette University School of Medicine,* realize with sorrow his loss from among us, as a loyal friend and colleague.

Resolved, That this expression of our sorrow be placed on the minutes of the faculty; a copy thereof be transmitted to the Wisconsin Medical Journal, and to members of his family.

(Signed) CHESTER J. FARMER,
HENRY C. TRACY,
LORENZO BOORSE,
HERMAN REINEKING,
Committee of Faculty.

CORRESPONDENCE

MUSCODA, WIS., Feb. 9, 1915.

Editor Wisconsin Medical Journal:

In your editorial on "The Eugenic Bill" in the January number of the Journal you certainly state the condition correctly when you say: "But under the wording of the present law a conscientious carrying out of its provisions is an impossibility for the general practitioner."

The first and only certificate that I have made under this law certified that I had made a careful examination of the party and that I found no evidence of venereal disease; but did not certify that I had made the "recognized clinical and laboratory tests of scientific search" for this I was not qualified to do. The certificate was presented to the county clerk who refused to grant a license on account of said omission. The applicant for license obviated the difficulty by going to an adjoining state to get married.

Since then I have turned away all applicants, telling them that the law requires me to certify that I have done things that I am not qualified to do and that lying is not justifiable.

Laws should make it easy to be honest and truthful but this law makes it impossible for the physician to be either honest or truthful and requires him either to be deceitful and untruthful or else to disappoint his best patrons and friends and turn them over to doctors of "questionable" methods and "elastic" consciences.

You say in your editorial that "It is possible that efforts may be made during the present session of the legislature to amend or repeal" this law.

Why not say that efforts *must* be made and must be made a *success* and that this damnable law must no longer exist. The medical profession should rise as one man and demand its repeal.

What can the Committee on Legislation do? What can the State Board of Health do? What can the State Medical School do? What can the Wisconsin Medical Journal do? What can I do?

LET US GET BUSY.

Yours truly,
C. R. PICKERING, M. D.

NEWS ITEMS AND PERSONALS

DR. P. J. CHRISTOFFERSON, Waupaca, who has been seriously ill with septicemia, is making satisfactory progress toward the recovery of his health.

DR. G. ROOD, Stevens Point, one of Wisconsin's oldest practicing physicians, celebrated the 85th anniversary of his birth on Jan. 20.

DR. P. A. BEEBE, Glenwood City, left on Jan. 20 for a trip south. He will visit points of interest in Louisiana, Alabama, Florida, Cuba and Panama.

DR. J. R. CURRENS, Two Rivers, has announced his candidacy for mayor of that city.

DR. A. W. SLAUGHTER, Green Bay, has removed to Ephraim, where he succeeds Dr. G. E. Egeland.

DR. GEO. KEENAN, Madison, who for some time has been ill with pneumonia is slowly recovering.

DR. A. J. WEBER, Milwaukee, is at Rochester, Minn., to attend the Mayo Clinics.

DR. H. J. WALL, Richland Center, has retired from active practice, and will make his home at Milwaukee.

DR. JOHN G. MEACHEM, JR., Racine, in commemoration of his fiftieth anniversary as a practicing physician in Racine, tendered a reception to the physicians of Racine on January 25th. Dr. Meachem was presented with a gold, open faced Howard watch in behalf of the physicians of Racine.

DR. E. G. HIGGINS, Melrose, and C. A. KISSINGER, Milwaukee, have formed a partnership at Melrose for the practice of their profession.

DR. NORMAN HOFFMAN, Milwaukee, who has been appointed superintendent of the Wales Tuberculosis Sanatorium to succeed Dr. J. W. Coon, resigned, has taken up his new duties at Wales.

DRS. O. M. SATTRE and D. L. DAWSON, Rice Lake, have formed a partnership at that village.

DR. W. E. LEAPER, Green Bay, was on January 6th elected superintendent of the Brown County Tuberculosis Sanatorium.

DR. JOHN G. HARRIMAN, who has been a member of the firm of Engsberg, Harriman and Eck, at Lake Mills, has disposed of his interest in the firm to his partners, and has removed to Howard Lake, Minn.

The partnership existing between Drs. G. A. Heidner and A. J. Driessel, West Bend, has been dissolved by mutual consent, Dr. Heidner withdrawing from practice in the city of West Bend, Dr. Driessel continuing alone.

DR. G. A. HEIDNER, West Bend, is spending the winter in the south.

DR. F. J. WOCHOS has removed from Kewaunee to Green Bay.

Dr. J. P. Parmley, Mineral Point, is convalescing from a recent serious illness.

Dr. John Lee, Superior, who sued Whitney Brothers, contractors, for $250, claimed as fees for medical services, was allowed $200 by a jury in Superior Court on January 13th.

Drs. E. M. and Ida H. Hunt, have disposed of their practice at Tigerton to Dr. George P. Bell of Buffalo, Kansas.

The Waupaca Hospital and Sanatorium was opened to the public on January 14th.

At a meeting held at the Commercial Club Rooms, Superior, on January 7th, the Douglas County Medical Association decided to purchase or rent a small building in Superior, which will be used by all of the physicians in the city for laboratory work.

The City Club (Milwaukee) committee on public health was empowered at a meeting on January 15th, to make an investigation into the needs of an institution for the treatment of cocaine victims.

A fully equipped clinical, pathological and research laboratory for the Milwaukee Hospital for the Insane, is one of the plans of Dr. Moses J. White, medical superintendent of the hospital. The last budget set aside $2,000 for equipment for the laboratory.

The Social Workers' Tuberculosis Sanatorium, Milwaukee which was opened in 1911, will be closed in a month, because of lack of funds, unless immediate financial relief is procured, according to an announcement made on January 27th at a special meeting of the board of directors.

MARRIAGES

Dr. D. N. Walters, Fond du Lac, and Miss Lida A. Esser, Jan. 12, 1915, at Milwaukee.

Dr. William H. Towne, Shiocton, and Miss Elsie Daniels, Seymour, January 7th, 1915.

Dr. G. Nedry, Medford, and Miss Delvia Smith, Chicago, January 27th.

DEATHS

Dr. A. A. Noyes, Wauwatosa, a former resident of Baraboo and Mason City, Iowa, died on January 7th, aged 92 years.

Dr. Emil Sidler, Cudahy, died suddenly on February 4th, aged 52 years, of heart failure. Dr. Sidler had been health commissioner of Cudahy for eight years. He was a member of the Milwaukee County and the State Medical Societies.

Dr. A. I. Comfort, for twenty-three years a surgeon in National Soldiers Homes, a few years at For Leavenworth and the balance in the Milwaukee branch, and for thirty years previous to that a surgeon with the regular army, with civil war service, died at the Home on February 1st, 1915, aged 87 years. Death was caused by hypostatic pneumonia, following a fracture of his right hip sustained in a fall on Jan. 30th.

Dr. Comfort was a graduate of the University of Pennsylvania, Department of Medicine in 1860. He was a member of the Milwaukee County and the State Medical Societies.

BOOK REVIEWS

A Text-Book of Pathology. For Students of Medicine. By J. George Adami, M. A., M. D., LL. D., F. R. S., Professor of Pathology in McGill University, Montreal, and John McCrae, M. D., M. R. C. P., (London), Lecturer in Pathology and Clinical Medicine in McGill University, formerly Professor of Pathology in the University of Vermont. Second edition, enlarged and thoroughly revised. Octavo, 878 pages, with 395 engravings and 13 colored plates. Cloth, $5.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

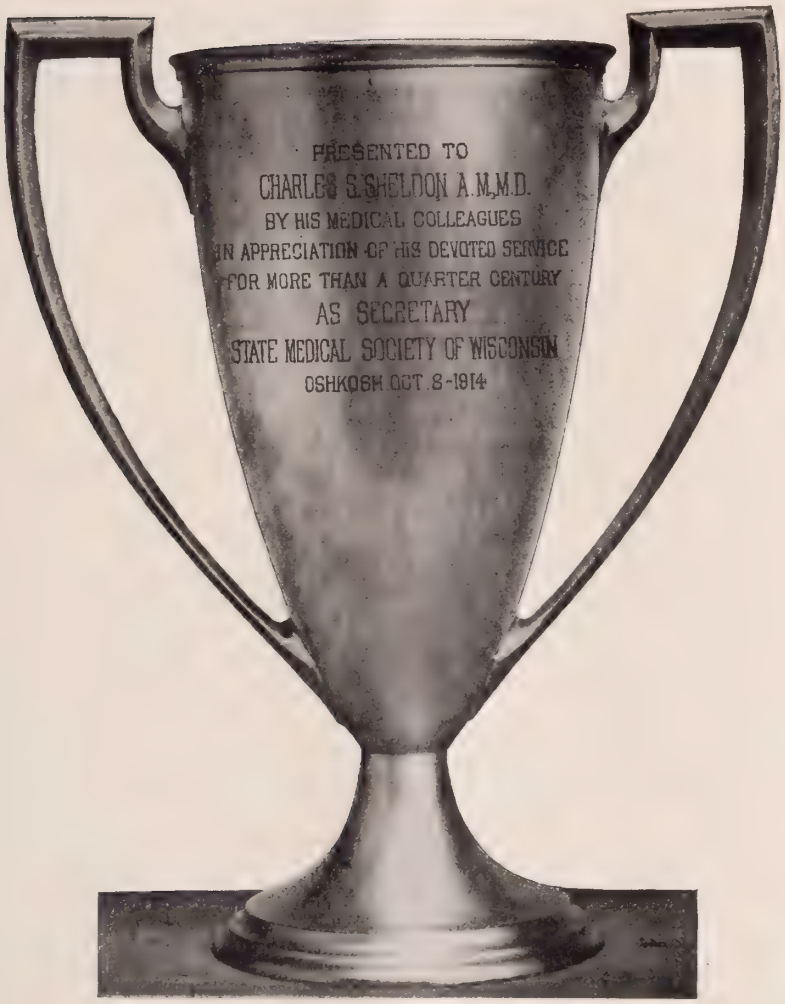
That the text book before us has filled its niche is attested by the early exhaustion of the first edition. The printing of this second edition has enabled the authors to revise and enlarge the scope of the book without adding appreciably to its size.

The point of view from which the subject of Pathology is approached has been commented upon before. The reviewer is still of the opinion that it is the best yet presented, making for clearness, logical sequence and added interest.

The authors have added a new chapter on "The More Important Infections and Their Prominent Features". The chapters throughout have been brought as nearly as possible up to date and more is said about toxins and the effects of "split products" in causing disease. Ninety-one engravings and two colored plates have been added and the volume is completely cross-indexed.

We recommend this book highly. No text book on such a large subject as Pathology can cover all the ground. The most an author can hope to accomplish is to present the underlying principles. This we believe is better brought out in this book than in any other with which we are familiar.

L. M. W.


PRESENTED TO
CHARLES S. SHELDON A.M.M.D.
BY HIS MEDICAL COLLEAGUES
IN APPRECIATION OF HIS DEVOTED SERVICE
FOR MORE THAN A QUARTER CENTURY
AS SECRETARY
STATE MEDICAL SOCIETY OF WISCONSIN
OSHKOSH OCT. 8-1914

As a fitting tribute to a devotion to the State Medical Society covering a period of almost thirty years, during twenty-five of which he acted as secretary, Dr. Charles S. Sheldon of Madison was presented with a silver loving cup—made the more attractive because it contained gold coin of a considerable amount—at the meeting of the Council of the State Medical Society held in Milwaukee on January 15. Although it was made known publicly to Dr. Sheldon, at the meeting of the Society at Oshkosh at which he presided, that a fund had been collected for the purpose of honoring him, the method in which this should take expression was left in the hands of a committee. We here reproduce a picture of the cup selected by this Committee, with its inscription.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1914-1915

T. J. REDELINGS, Marinette, President
HOYT E. DEARHOLT, Milwaukee, 1st Vice President
SPENCER BEEBE, Sparta, 2nd Vice President
H. W. MORGENROTH, Oshkosh, 3rd Vice President
ROCK SLEYSTER, Waupun, Secretary
S. S. HALL, Ripon, Treasurer

Councilors

TERM EXPIRES 1917
1st Dist., M. R. Wilkinson - Oconomowoc
2nd Dist., G. Windesheim - - Kenosha

TERM EXPIRES 1918
3rd Dist., F. T. Nye - - - - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1919
5th Dist., W. F. Zierath - Sheboygan
6th Dist., H. W. Abraham - - Appleton

TERM EXPIRES 1920
7th Dist., Edward Evans - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1915
9th Dist., T. H. Hay - Stevens Point
10th Dist., R. U. Cairns - - River Falls

TERM EXPIRES 1916
11th Dist., J. M. Dodd - - Ashland
12th Dist., H. E. Dearholt - Milwaukee

Delegates to American Medical Association

A. H. LEVINGS, Milwaukee
J. F. PEMBER, Janesville
J. M. DODD, Ashland

Alternates

M. E. CORBETT, Oshkosh
EDWARD EVANS, La Crosse
C. M ECHOLS, Milwaukee

Committee on Public Policy and Legislation

J. P. McMAHON, Milwaukee, Chairman
A. G. SULLIVAN, Madison, Secretary
G. H. FELLMAN, Milwaukee
S. G. HIGGINS, Milwaukee
A. S. LOEVENHART, Madison
J. J. McGOVERN, Milwaukee
P. F. ROGERS, Milwaukee
C. S. SHELDON, Madison

Committee on Medical Defense

G. E. SEAMAN, Milwaukee, Chairman
S. S. HALL, Ripon
A. J. PATEK, Milwaukee

Committee on Prevention of Tuberculosis

T. H. HAY, Stevens Point
G. E. SEAMAN, Milwaukee
C. A. HARPER, Madison
J. M. BEFFEL, Milwaukee
C. H. BUNTING, Madison

Program Committee

C. M. ECHOLS, Milwaukee, Chairman
L. M. WARFIELD, Milwaukee
ROCK SLEYSTER, Waupun

Committee on Arrangements

R. W. BLUMENTHAL, Milwaukee, C airman

NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 6-8, 1915.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	M. S. Hosmer, Ashland	C. J. Smiles, Ashland.
Barron-Polk-Washburn-Sawyer-Burnett	G. N. Lemmer, Spooner	A. S. White, Rice Lake.
Brown-Kewaunee	W. Webster Kelly, Green Bay	F. L. Crikelair, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knauf, Kiel.
Chippewa	A. C. Nussle, Chippewa Falls	A. L. Beier, Chippewa Falls.
Clark	H. H. Christofferson, Colby	E. L. Bradbury, Neillsville.
Columbia	O. O. Force, Pardeeville	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	C. S. Sheldon, Madison	L. H. Prince, Madison.
Dodge	R. E. Bachhuber, Mayville	E. S. Elliott, Fox Lake.
Door	H. F. Eames, Egg Harbor	T. C. Proctor, Sturgeon Bay.
Douglas	W. E. Hatch, Superior	D. R. Searle, Superior.
Dunn-Pepin	F. E. Butler, Menomonie	I. V. Grannis, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	J. M Baasen, Mt. Calvary	H. C. Werner, Fond du Lac.
Grant	S. W Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	W. J. Pearce, Dodgeville	H. D. Ludden, Mineral Point.
Jefferson	C. S. Carmichael, Helenville	W. A. Engsberg, Lake Mills.
Juneau	C. C. Vogel, Elroy	A. T. Gregory, Elroy.
Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	H. O. Shockley, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	Joseph F. Smith, Wausau	R. W. Jones, Wausau.
Marinette-Florence	E. E. Axtell, Marinette	R. R. Heim, Marinette.
Milwaukee-Ozaukee	R. G. Sayle, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	L. G. Sheurich, Tomah	Spencer D. Beebe, Sparta.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
Outagamie	J. R. Scott, Appleton	F. P. Dohearty, Appleton.
Pierce	D. C. Munger, Ellsworth	R. U. Cairns, River Falls.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	E. A. Richy, Park Falls	G. H. McClure, Westboro.
Racine	Emil Tompach, Racine	Susan Jones, Racine.
Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center.
Rock	E. A. Loomis, Janesville	F. E. Sutherland, Janesville.
Rusk	Julian C. Baker, Hawkins	L. M. Lundmark, Ladysmith
Sauk	F. D. Hulburt, Reedsburg	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham	H. J. Calkins, Shawano.
Sheboygan	G. H. Stannard, Sheboygan	A. J. Knauf, Sheboygan.
St. Croix	Philip McKeon, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	C. L. Story, Whitehall	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	E. J. Fucik, Williams Bay	Edward Kinne, Elkhorn.
Washington	W. J. Wehle, West Bend	S. J. Driessel, Barton.
Waukesha	F. J. Woodhead, Merton	S. B. Ackley, Waukesha
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London
Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. A. Mason, Marshfield	J. B. Vedder, Marshfield.

MEETING OF THE COUNCIL, THE STATE MEDICAL SOCIETY OF WISCONSIN.

MILWAUKEE.

January 15, 1915.

The Council was called to order by the Chairman, Edward Evans, at eleven-thirty, Jan. 15th, 1915, at the rooms of the Milwaukee Medical Society. The following councilors were present: Drs. Abraham, Dearholt, Dodd, Evans, Zeirath, Wilkinson, Cairns, Redelings and Windesheim. Ex-Pres. Sheldon, Treasurer Hall, Secretary Sleyster, and Drs. Patek, Stoddard, McMahon, Hopkinson, Warfield and Echols were in attendance.

Dr. Edward Evans was re-elected Chairman of the Council and Drs. Sleyster and Hall were re-elected secretary and treasurer of the State Society for the year 1915.

A motion to enlarge the Committee on Public Policy and Legislation to seven members, the four new ones to be appointed by the Chairman of the Council after consultation with the Chairman of the Committee, was carried. The Committee was instructed to carry on its work as in previous years, and to work for a bill requiring two years of pre-medical college work from all applicants for a license to practice medicine in Wisconsin.

The workmen's compensation act, the eugenics law and a bill to license masseurs were discussed by the council, the committee and Mr. A. C. Umbreit, who appeared before the Council with a draft of the latter bill.

It was decided that the stand of the Society on these matters be left to the Committee on Public Policy and Legislation, they to make a thorough investigation and confer with the Industrial Commission and canvass the medical opinion of the state in relation to the workmen's compensation act.

It was moved and carried that the Council endorse a committee appointed by the Council on Medical Education of the American Medical Association to investigate and co-operate with the Council of the A. M. A. in securing a reliable list of hospitals for the training of interns.

A recess was taken at one o'clock and luncheon was served at the University Club. At this time a silver loving cup which contained a fund in gold raised by the members of the State Medical Society was presented to Dr. Charles S. Sheldon of Madison who served the State Society as Secretary for a quarter of a century. The presentation speech was made by Dr. A. J. Patek and Dr. Sheldon responded in his usual style. It was unanimously voted that Dr. Sheldon be carried on the roll of the society as Secretary Emeritus.

It was moved and carried that in the future the Secretary provide each member one or two weeks in advance of the meeting, with a resumé of business referred from the House of Delegates, such recommendations as he has to make and a forecast of such business as he thinks likely to be presented by individual members.

The following resolution introduced by Dr. Dearholt was passed:

"WHEREAS, The elimination of Contract Practice would seem to require the consent and co-operation of both parties to such contracts, I move that the question of contract practice be referred to the Committee on Education and Publicity, urging the preparation of a report and argument to be presented to lodge and other employers of contract physicians, setting forth the evils of such practice as the medical profession sees it; and that the Committee continue such propaganda as experience warrants."

On motion the Council adjourned.

ROCK SLEYSTER, *Secretary.*

REPORT OF THE SECRETARY TO THE COUNCIL FOR THE YEAR 1914.

The secretary submits herewith a detailed report of the membership of the State Medical Society of Wisconsin for the year 1914. This is so tabulated as to show for each county and councilor district the following information: 1913 membership; 1914 membership; loss or gain; number of delinquents, new members, deaths, removals and resignations.

It will be noted that the membership of Dec. 31st, 1914, totals 1,743, exactly the membership of 1913 with no loss or gain. The last figure, however, includes reinstatements made during the past year and it is fair to assume that some of the 56 delinquents will ask for reinstatement which will make the 1914 membership to show a slight gain. Aside from the 56 delinquents we have lost 33 members through death, 11 have resigned, six have retired from practice and allowed their membership to lapse and 93 have removed from the councilor district in which they were located last year. Of this number 63 have left the state. To offset these losses we have gained 164 new members.

MEMBERSHIP REPORT.

1914.

	1913	1914	Loss— Gain+	Delinquent	New Members	Deaths	Removals	Resigned
1st District—								
Dodge	31	36	+5	0	6	0	1	0
Jefferson	30	34	+4	0	7	3	5	0
Washington	16	14	—2	2	0	0	0	0
Waukesha	45	41	—4	0	0	2	2	0
Total	122	125	+3	2	13	5	8	0
2nd District—								
Kenosha	38	36	—2	0	0	1	1	0
Racine	33	39	+6	1	8	0	1	0
Walworth	30	26	—4	2	5	1	4	1
Total	101	101	0	3	13	2	6	1
3rd District—								
Dane	106	106	0	0	8	2	4	2
Columbia	30	30	0	1	2	1	2	0
Green	20	19	—1	0	0	0	1	0
Rock	57	59	+2	4	7	0	1	0
Sauk	23	21	—2	2	2	0	2	0
Total	236	235	—1	7	19	3	10	2
4th District—								
Crawford	11	11	0	0	0	0	2	0
Grant	46	46	0	1	6	1	4	0
Iowa	10	12	+2	1	3	0	0	0
La Fayette	19	18	—1	1	1	0	2	0
Richland	15	11	—4	1	2	0	0	0
Total	101	98	—3	4	12	1	8	0
5th District—								
Calumet	16	15	—1	1	0	0	0	0
Manitowoc	24	24	0	2	1	0	0	0
Sheboygan-Ozaukee	49	47	—2	3	3	1	1	0
Total	89	86	—3	6	4	1	1	0
6th District—								
Brown-Kewaunee	37	39	+2	1	6	0	3	0
Door	3	11	+8	0	8	1	0	0
Outagamie	35	36	+1	0	3	2	2	0
Fond du Lac	46	51	+5	1	6	0	0	0
Winnebago	61	64	+3	0	4	1	6	0
Total	182	201	+19	2	27	4	11	0
7th District—								
Juneau	10	12	+2	0	2	0	0	0
La Crosse	35	36	+1	0	3	0	2	0
Monroe	23	19	—4	0	0	4	1	0
Trempeleau-Jackson-Buffalo	26	25	—1	0	2	0	5	0
Vernon	11	11	0	0	1	2	0	0
Total	105	103	—2	0	8	6	8	0

	1913	1914	Loss— Gain+	Delinquent	New Members	Deaths	Removals	Resigned
8th District—								
Marinette-Florence	29	27	—2	1	1	0	4	0
Oconto	11	7	—4	4	0	0	0	0
Shawano	20	20	0	0	1	0	1	0
Total	60	54	—6	5	2	0	5	0
9th District—								
Clark	19	18	—1	1	0	0	0	0
Green Lake—Waushara-Adams	27	29	+2	1	3	1	0	0
Lincoln	10	11	+1	0	1	0	0	0
Marathon	37	37	0	0	1	2	1	0
Portage	19	22	+3	0	3	0	0	0
Waupaca	29	25	—4	1	1	1	4	0
Wood	22	22	0	0	3	1	2	0
Total	163	164	+1	3	12	5	7	0
10th District—								
Barron-P.-W.-S.-Burnett	39	32	—7	2	2	0	6	0
Chippewa	17	22	+5	1	6	0	0	0
Dunn-Pepin	18	17	—1	1	0	0	0	0
Eau Claire	36	37	+1	1	5	1	1	0
Pierce	14	14	0	1	2	0	1	0
Rusk	10	8	—2	1	0	0	0	0
St. Croix	18	18	0	1	2	0	2	0
Total	152	148	—4	8	17	1	10	0
11th District—								
Ashland-Bayfield-Iron	26	22	—4	4	3	1	2	0
Douglas	35	35	0	0	1	0	2	0
Langlade	15	13	—2	0	2	0	4	0
Oneida-Forest-Vilas	15	12	—3	0	1	0	3	0
Price-Taylor	11	10	—1	2	1	0	0	0
Total	102	92	—10	6	8	1	11	0
12th District—								
Milwaukee	331	333	+2	10	29	4	8	5
Grand Total	1743	1743	0	56	164	33	93	11

The 1st, 6th, 9th and 12th districts have made gains. The 3rd, 4th, 5th, 7th, 8th, 10th, and 11th show a loss. The 2nd remains the same. The losses will be seen to be mostly in the northern counties of the state. This is the section showing the greatest number of removals and it would seem that there are fewer practitioners in this section than formerly.

The splendid showing of the sixth district deserves a word of praise for the councilor and the county secretaries whose tireless efforts have resulted in a gain of 19. This district with a membership of 201, has but two delinquents and has 27 new members. Door county, which has been the despair of all who have worked for its organization has been increased from 3 to 11 through the personal efforts of Dr. Abraham the Councilor who spent some time on the ground seeing each man personally. With one exception, every man in the county is a member.

Collections have been more difficult than usual during the past year because of the raise of one dollar for medical defense. The membership, however when the necessity was explained have paid without complaint and I believe the defense feature is stronger than ever. It is discouraging to be compelled each year to make the same old campaign for the collection of dues. Members expect to pay but are careless and may wait until the late part of the year when the county and

state secretaries have written repeatedly before making payment. We have now 56 who have not paid the 1914 dues and probably the majority of these will eventually pay. But one district, the seventh, has no delinquents. We hope these conditions will be improved the coming year and now have the 1915 collections well started hoping that an earlier beginning will bring better results. We will also issue with the January journal a printed slip calling attention to the fact that subscription ends with that issue.

During the year the secretary has furnished each county secretary with a printed slip asking for the names of all eligible and desirable non-members. Membership was solicited from this list with gratifying results. The secretary is of the opinion that our membership is now practically complete. It is doubtful if there are 150 in the state who are eligible and desirable who remain outside and are not affiliated. With our present strength the desirability and fitness of every applicant for membership should be thoroly investigated.

During the past year your secretary has visited nine county societies in the state, has attended the sessions of one other state society, two sessions of the Association of State Secretaries, and the annual session of the American Medical Association. These meetings have been an inspiration and we have gained valuable hints for improving our work. We have, however, always come home with a better opinion of our own state society. I know of none with the excellent feeling of fellowship we have here at home. I have been unable to find a single society which has equalled our attendance of 25 per cent. at the Oshkosh meeting—and this meeting was not held in a metropolis. In closing I wish to thank the members of the Council for the splendid aid they have given in helping me to carry on the work as it was laid down by the very best secretary any medical organization has ever known.

Respectfully submitted,

ROCK SLEYSTER, *Secretary.*

SOCIETY PROCEEDINGS

ASHLAND COUNTY.

The annual meeting of the Ashland County Medical Society was held on December 14, 1914, in the Sun Parlor of the Knight Hotel at Ashland. Fourteen members were present. After a turkey supper which was and the following officers were elected: President, M. S. Hosmer, Ashland; vice-president, J. V. Wenzel, Ashland; secretary-treasurer, C. J. Smiles, Ashland; censor, J. A. Marschessault, Ashland. After the election of officers the following program was given: "Stereopticon Lecenjoyed by the members, the business meeting was held ture on the Open Treatment of Fractures, and the Use of Lane's Bone Plates," by Dr. J. M. Dodd. Dr. Dodd gave a very good lecture. The plates showed fractures before and after treatment and the results obtained by the newer method of treatment were perfect in every case shown. Dr. Dodd has spent a great deal of time in study and hard work on the treatment of fractures, and is considered an authority on that subject in this section.

Dr. M. S. Hosmer read a paper on "Our Present Knowledge of Bone with Reference to Infection, and to the use of Bone as a Transplant." The paper was very well written and showed a great deal of work on the part of the writer.

The president of the Society, Dr. Hosmer, appointed Drs. Otto Braun, E. C. Jackson and C. O. Hertzman as the program committee for the coming year. A very interesting program has been arranged for, every member of the Society being given a subject for the coming year.

Meetings will be held every two weeks at St. Joseph's Hospital, the Society having decided to use the hospital for meetings, as it will be handier when members have cases for demonstration, and there being an abundance of clinical material of all kinds always to be had at the hospital. The Sisters have given permission for holding the meetings and they will be a great help in making the Society a big success for 1915.

G. W. HARRISON.

CALUMET COUNTY.

The annual meeting of the Calumet County Medical Society was held on Oct. 29, 1914, at New Holstein. The members are of the opinion that the meetings should be made more social in character. This matter is now in the hands of the program committee. Hereafter one meeting each year will be devoted entirely to the business side of medical practice. The annual dues were fixed at $5.00. Dr. H. C. Krohn, New Holstein was elected to membership. Dr. W. F. Zierath, Sheboygan, was a guest of the Society. The election of officers resulted as follows: president, C. L. R. McCollum; vice-president, E. T. Rathert; secretary-treasurer, F. J. Fechter; delegate, C. F. Lawler; alternate, F. P. Knauf; censors, A. C. Niemann and N. J. Knauf.

COLUMBIA COUNTY.

Columbia County Medical Society held its annual meeting and election of officers at the City Hall, Portage, on Dec. 9, 1914. On account of the complaint of members of the Society that it is impossible to attend

morning sessions, an afternoon session only was held. Contract work for the county's poor was discussed. Ten members were present. The election resulted in all of last year's officers being re-elected.

EAU CLAIRE COUNTY.

At the December meeting of the Eau Claire County Medical Society the following officers were elected for the ensuing year: president, F. S. Cook, Eau Claire; vice-president, D. W. Ashum, Eau Claire; secretary-treasurer, R. E. Mitchell, Eau Claire; censor, E. E. Tupper, Eau Claire; alternate, L. H. Flynn, Eau Claire.

R. E. MITCHELL, *Secretary.*

GREEN COUNTY.

Green County Medical Society held a business meeting at the Hotel Ludlow, Monroe, only the Monroe members being present. A tieup of traffic on the railroad prevented the out of town members from being present. Dinner was served at one o'clock, followed by a short business session, at which officers were elected for 1915. President, W. B. Gnagi; vice-president, G. S. Darby; secretary-treasurer, L. A. Moore; delegate, L. A. Moore; alternate, Edward Blumer; censor, F. L. Hodges.

JEFFERSON COUNTY.

Annual meeting of the Jefferson County Medical Society was held at Jefferson December 29, 1914. The following officers were elected: president, H. P. Bowen, Johnson Creek; vice-president, J. A. Keithley, Palmyra; secretary-treasurer, William A. Engsberg, Lake Mills; delegate, H. O. Caswell, Ft. Atkinson; alternate, Wm. A. Engsberg, Lake Mills.

WM. A. ENGSBERG, *Secretary...*

MARATHON COUNTY.

The first meeting in the New Year of the Marathon County Medical Society was held at Wausau Club House, Jan. 20th, at which the following officers were elected: president, Dr. R. W. Jones; secretary-treasurer, Dr. R. M. Frawley; delegate, Dr. A. B. Rosenberry; alternate delegate, Dr. E. J. Phelps.

Dr. J. F. Smith gave a talk on the "Progress in Surgery during the Past Year." Dr. W. A. Green gave an interesting talk on "Twilight Sleep". Dr. A. B. Rosenberry discussed "Albuminuria of Pregnancy".

A Dutch Lunch was served in the dining room of the Club before the meeting.

R. M. FRAWLEY, M. D., *Secretary.*

OUTAGAMIE COUNTY.

Outagamie County Medical Society met at the Hotel Randolph, Appleton, January 12, 1915. The meeting was called to order by the president, Dr. J. R. Scott. Minutes of the previous meeting read and approved. A nominating committee for the year, consisting of Drs. Ritchie, Boyd and Sanborn was appointed by the president. The committee reported the following nominations: president, E. H. Brooks; vice-president, M. E. Rideout; secretary-treasurer, W. N. Moore; censor, J. T. Reeves; delegate, W. N. Moore; alternate, W. H. Towne. On motion of the secretary was instructed to cast the vote of the society for the above officers. Following the election of officers a dinner was held at the Hotel Randolph, Dr. Simpson of Chicago being the guest of the society.

After the dinner Dr. Simpson gave a stereopticon lecture on his experience in treatment of various dermatological lesions with radium, his slides showing pictures of patients before, during and as late as two years following treatment. The discourse was interesting to all present, and a rising vote of thanks was given Dr. Simpson for his able address.

W. N. MOORE, *Secretary.*

PORTAGE COUNTY.

The annual meeting of the Portage County Medical Society was held on January 15th, when the following officers were chosen: president, W. W. Gregory; vice-president, D. N. Alcorn; secretary, W. F. Cowan; delegate, W. F. Cowan; alternate, T. H. Hay; censors, D. N. Alcorn, E. H. Rogers, F. A. Southwick. Preceding the meeting the members were entertained at supper at the Sellers Hotel by Dr. Cowan.

RACINE COUNTY.

The annual meeting of the Racine County Medical Society was held on December 17th, at 8 P. M., in the Commercial Club Rooms, Racine. Dr. Herman L. Kretschmer of Chicago addressed the Society on "A Consideration of Non-Cutting Operations on the Urinary Bladder". The lecture was illustrated with slides. The following officers were elected for the ensuing year: president, F. J. Pope; vice-president, S. C. Buchan; secretary-treasurer, Susan Jones; delegate, J. S. Keech; alternate, Frank Newell; censor, G. W. Nott.

SUSAN JONES, *Secretary.*

SHAWANO COUNTY

The Shawano County Medical Society held its annual meeting at the First National Bank, Shawano, on January 14th. The members are determined to make 1915 the banner year in the history of the Society. Dr. C. E. Stubenvoll was elected president, Dr. M. H. Fuller, Bonduell; Vice-president; Dr. H. J. Calkins, re-elected secretary-treasurer; Dr. W. H. Cantwell, delegate; Dr. L. Rothman, alternate; censors, W. J. Ragan and M. H. Fuller.

WALWORTH COUNTY

Walworth County Medical Society held its annual meeting and election of officers on January 15th, 1915, at Elkhorn. Dr. A. E. Midgley was elected president, Dr. J. H. Young, vice-president; Dr. Edward Kinne, secretary-treasurer; Dr. Jos. M. Marsh, censor; Dr. M. V. Dewire, delegate.

MILWAUKEE MEDICAL SOCIETY

At the meeting held on January 13, 1915, at the rooms of the Milwaukee Medical Society in the Goldsmith Building, the following officers were elected: president, L. F. Jermain; vice-president, J. J. McGovern; secretary, Oscar Lotz; treasurer, J. P. McMahon; librarian, W. L. LeCron; curator, P. F. Rogers.

OSHKOSH MEDICAL CLUB.

At the semi-annual meeting of the Oshkosh Medical Club held January 26, $50.00 was voted toward aiding the physicians and their families in Belgium.

W. N. Linn, *Secretary.*

MILWAUKEE OTO-OPHTHALMIC SOCIETY.

At the annual meeting and banquet of the Milwaukee Oto-Ophthalmic Society held at the University Club, on January 19th, the following officers were elected for the ensuing year: president, N. M. Black; vice-president, C. S. Beebe; secretary-treasurer, G. I. Hogue; council, N. M. Black, C. S. Beebe, G. I. Hogue, H. B. Hitz and F. Pfister.

Gustavus I. Hogue, *Secretary.*

ABSTRACTS

Investigations on the Biological Behavior of the Blood Serum to the Albumen of the Lens Cataract, According to the Methods of Passive Anaphylaxis. 4. Communication. Roemer, P., and Gebb, S., (From the Eye clinic of Prof. P. Roemer in the University of Greifswald. Archiv. für Aug. 77, p. 316), describe their investigations in detail, with the result that they became convinced that there is something taking place in the relations of blood serum to the albumen of the lens in cataract, but that this phenomenon cannot be elucidated even with this biological method.

C. Zimmermann.

Cataracta Dermatogenes. Andogsky, N., St. Petersburg, (Klin. Mon. für Aug. 52, Juni, 1914, p. 824), reports, after a review of the incident literature, four cases of cataract with the following affections of the skin: erythema exudativum multiforme, discharging exanthema and numerous abscesses, eczema with furuncles, and universal eczema. On account of the undoubted connection between the formation of opacities of the lens and affections of the skin this form of cataract is called dermatogenes. It shows the following characteristics: the opacities develop at a youthful age, from the first decade to the fourth, in persons with previously normal eyes who suffer from extensive skin affections in form of various inflammations or atrophic changes and diseases of the blood vessels. The opacities are bilateral and develop under the anterior capsule in the form of anterior stellate cataract or in sectors. The first changes start in the capsular epithelium, more rarely, if the vessels of the ciliary body participate, in the posterior subcapsular strata. These opacities progress and occupy the whole lens, leading to total soft cataract, within from 6 to 8 days in very young persons, from 1 to 3 years in adults. They are not complicated by changes of the interior or exterior parts of the eyes. Extraction of the lens or discission with or without subsequent linear extraction give a good prognosis. According to Rothmund the predisposition to this anomaly lies in the skin and lens, which embryologically is an indentation of the external skin. If the changes of the anterior subcapsular strata are considered as a consequence of an autointoxication of the organism, which occurs, acute or chronic, in connection with the extensive disturbance of the function of the skin, a direct connection of the affection of the lens and skin, on account of the embryolic relationship, may be assumed.

C. Zimmermann.

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ORIGINAL ARTICLES

INSTRUCTION IN SEX PHYSIOLOGY AND HYGIENE.*

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Up to a few years ago there was a conspiracy of silence with respect to the facts which have since come to be considered under the heading of "Sex Hygiene". Since then, owing to the increasing indulgence of modern life and to the moral obliquity and sexual laxity attendant upon it, the subject has been discussed long and loud by sociologists, educators, physicians, clerymen, social workers and trained nurses. Two or three new books appear on the subject each month and columns of newspaper space have been appropriated to items upon it. Some of the discussion and some of the written matter have been advanced after mature deliberation, and therefore serve well their purpose, while the remaining great majority have been, although the product of brilliant minds and well-meaning people, precipitate, unscientific, improper and harmful, if not immoral in tendency. The principal reason given by these writers in support of general and open discussion is: that the great majority who indulge in improper or immoral practices do so because of a lack of knowledge of the harm in them and the evil consequences attendant upon them. They believe that the sexual depravity and abuses of the young are due to ignorance of the purposes, physiology and hygiene of the sexual organs or to the possession of perverted knowledge acquired from older and vicious associates and that the only safeguard against such depravity is a thorough understanding of the anatomy, physiology and hygiene of these organs; hence their activity in educational efforts.

Opposed to the advocates of discussion of these subjects there are those who believe that any form of public or even private teaching does more harm than good by unnecessarily directing the attention of the young minds to organs and passions which had better be allowed to remain dormant as long as at all possible; that it is better to distract attention from these special organs and from passions instead of directing attention to them; that the discussion of sexual matters before young minds is apt to make them curious and to prompt experimentation, as a result of which they acquire additional dangerous if not inflammable information; that a discussion of the subjects tends to dilute the sense of shame which is one of the greatest forces to conserve virtue; that rational instruction, mere information or facts with reference to evil practices and their attendant perilous consequences, has little effect in restraining them; that it is folly to expect that such knowledge would or could of itself control human passions; that if they did it would be poor morality; that this is one subject in which ignorance, or better innocence, is bliss; that distraction is, therefore, more efficacious than instruction; that it is purely a question of will power; that while knowledge and reason advise the will they do not constitute it, in fact, the will often disregards both knowledge and reason; that positive evil can be prevented or driven out only by a much more positive good; that the lower passions can be conquered only by the higher passions; and finally that the subject is such an intricate and delicate one that no person can become qualified to present it in such a way that only good can come from the discussion.

The positive teaching of this latter school of belief is that every effort should be directed toward creating an interest in cleanliness of body and mind, toward building up a strong physical constitution, increasing vitality and making possible a more active, a fuller and a more abundant life, toward creating lofty ideals, which can best be done by proper precept and example in the home and in the school, through contact with the highest types of characters and by instilling a knowledge of and a reverence for the divine. They argue that as a result of these qualities, *a will, a character* and *a morale* are developed, which make it pos-

*Read before the Milwaukee Medical Society, February 23, 1915, with abstract of discussions before the Milwaukee Medical Society.

sible and easy for the possessor to refrain from indulgence in improper practices, deportment or conduct in spite of the greatest possible temptations and the most favorable opportunities; that there are developed a *character* so strong that it makes the individual independent of the mass and a *will power* so strong that it constitutes an impregnable barrier against yielding to the greatest passions as readily as it controls untutored impulses. As an aid to such plan, abolition of co-education and of co-educational playgrounds, and the discontinuing of lecturing, printing of books, press notices and cartoons, and the painting of pictures which direct attention to the sexual organs, create sex consciousness and tend to excite passion are advised.

In view of the conflicting theories upon the subjects, there is need for reflection and further study in order to make the best use of past experience and to correct the errors observable from it. *The problem is primarily one of feeding young minds and, therefore, one of the most intricate and delicate which may engage human endeavor.* There should be a well planned and deliberate conference of the men and the women who have given the matter thought in order that a sane and rational solution of the problems may be evolved and, if it be decided to continue discussions, that a helpful, practicable and, above all, a harmless system of instruction may be developed for the guidance of future efforts.

What such proposed system may be, I would not be presumptuous enough to attempt to outline, but I shall take a few minutes of your time to advance my own ideas on the subject, born of reading a few of the before mentioned books, discussing the matter with others who have given it thought and limited experience in the capacity of a medical advisor in dispensary, hospital and private practice and a more limited experience in medical pedagogy.

The term Sex Hygiene is not well selected, nor is it sufficiently comprehensive. Hygiene is the science of the preservation of health and points out the perverted and diseased consequences of errors. The problems involved are: teaching the young boys and girls, the adolescent, and the mature as well, the special physiology of their reproductive organs, (hence the presence of the term physiology in the title of this paper), proper development of their physical and mental system, what constitutes proper conduct with reference to their relations with members of the opposite sex, how to raise their moral standards to avoid vice and to control passions, and acquainting them with the hygiene of mature sexual life. Dr. R. C. Cabot, of Harvard University, discusses the problem under the caption of "The Consecration of the Affections" and defines them as the straight, right action in matters of human affection.

I believe that there should be a compromise between the school of formal teaching and those who advocate the *laissez faire* system; that there must be instruction, but that the instruction should be imparted in privacy with reserve, discreetness and with the greatest possible delicacy; that the duty of giving the instruction devolves upon the parents, guardians or next of kin; that the mother should answer, intelligently and truthfully, questions pertaining to the physiology and hygiene of sex propounded by the girls and younger boys when they shall have attained such use of reason as to prompt pertinent ones; that the arrival of a new baby is best explained to the very young by saying that it was a present, it was left by the physician, the Deity sent it or any other stock answer; that there comes a time when explicit information should be imparted; that the mother should teach the older girls and that the father should instruct the older boys in the physiology of the sexual organs and of reproduction, after they have attained the ages of twelve and thirteen; and that the first inquiries with respect to the matter of sex and reproduction had much better be answered by the parents in privacy than by precocious ill-advised or immoral playmates or older acquaintances. Improving the opportunity to answer opportunely and intelligently the foregoing questions constitutes one of the principal advantages of parental instruction over instruction from any other source. On the other hand, failure to answer such questions and to impart the before indicated information only accentuates the child's interest in the matter and usually possesses him of the idea that the facts pertaining to sex are wicked, which makes them all the more alluring to the developing, receptive, imaginative and alert mind. The girl should be made acquainted with the physiology of her reproductive organs before the first menstruation in order to obviate the anxiety, fear and shock which so often accompany the first period. When a girl of thirteen or fourteen inquires as to the source of the new born baby, she should be told frankly that it grew in the mother's womb, an organ

especially designed for this purpose and that it was born when the proper time came.

The teaching of facts with regard to the begetting of children, the fertilization and development of the ovum should be postponed until adolescence is well established, unless specific inquiries are made by the daughter after puberty. Part of this instruction may be imparted to boarding school girls by carefully selected instructors in absolute privacy. The education of the girls should be accompanied by observation as to sex cleanliness, proper clothing, and abnormal or perverted sexual development. The presence of the latter should, of course, be followed by a visit to a physician.

The same advice with reference to instructing the girls applies with respect to instructing the boys until they shall have attained the age of twelve or thirteen. If the boy has been tutored by his father, taught to regard him as his chum and confidante as he should be, he will sooner or later ask his father in anxiety about the relief of nature during the night. The physiology of his sexual organs and of such relief should be frankly explained to him and he should be advised that it is perfectly natural and should not give him further concern. The father should improve the first opportunity to admonish the son against self-abuse. When the boy becomes older, the father will do well to explain to him that certain powers were given him for the propagation of the race and that, if they are abused during boyhood or young manhood, he will be damaged by the shattering of his nerves, the enfeebling of his brain, the dulling of his intellect, the weakening of his will and the deteriorating of his physique, all of which will impair the performance of his functions and interfere with the realization of his ambitions during manhood. There should be instilled in the boy, at the same time, a profound respect and reverence for womanhood. The esteem, deference, gallantry and chivalry which he would have accorded his own mother and sisters should be pointed out as examples of what should be accorded to all womankind.

Coming to the hygiene of mature sexual life of the boy and the girl, it is a well known fact that the great majority of them leave home at more or less immature years either to go to college or to engage in the arts and crafts or in domestic work and that they will be confronted with new and great temptations and vices of all kinds. There can be no question that, before leaving the family circle, each daughter and son should be apprised of the existence, nature and far reaching disasters of venereal diseases and that they may be contracted innocently as well as immorally and criminally. Girls especially should be advised of the existence of the white slave traffic and of the different subterfuges by which they may be innocently traduced and victimized.

I hope I have made it clear that I believe the instruction should, in the main, be imparted by the parents. The only difficulty in the way of this plan is the fact that such a large proportion of mothers and fathers are incapable of presenting the subjects intelligently and with the degree of delicacy required. It would seem that some effort ought to be made to overcome this incapacity on the part of present day parents and that the task might very properly be undertaken by women's clubs. They can arrange for instruction of present and prospective parents, in classes of reasonable size, conducted in public school buildings, in churches or in lecture halls, by physicians, clergymen, or by educators or social workers with special training.

ABSTRACT OF DISCUSSION.

W. F. Becker, M. D. Whether the teaching of sex questions will make for pruriency or for self-control is hard to say. It is greatly deplorable if the fruits of research in this field cannot be as easily applied to human suffering as in other fields. Certainly the need is great. The cry is Macedonian. I just heard a woman, afflicted with obsessions that keep her from contact with her own fireside, severely reproach her mother for not having enlightened her on certain sex matters which bear on her desperate situation. But mothers are not always themselves enlightened.

Margaret Fuller, I think, said "Give me truth as I have strength to receive it". That would seem our problem. Are they ready to receive it? I think the better judges of that at present are those whose contact with them is larger than the schools. Yet intelligent parents are often poor instructors and reluctant ones, as depicted in the little play "The Blindness of Virtue".

In such teaching we must be guarded lest we give them too poor an opinion of human nature. They can not stand that as well as we; also lest we develop fear states and hypochondria, because of the enormous impressionability of the subject. The "Little knowledge which is dangerous" is already here the fertile field of the quack, who exploits the fears of the young and ignorant, by capitalizing "Youthful Indiscretions", "Lost Manhood", etc. (see the ads. in the daily papers).

But have we, as instructors, sufficient knowledge ourselves, and is our own attitude to the subject right? I remember a leader in "Social Purity Work", so-

called, to whom I suggested the reading of Dr. Hall's work, who returned it to me as a "nasty" book. It is along these lines that I should like to say a little.

I would like to bespeak a greater tolerance of the revelations of scientific research on the sex question. Why should we not face it, we who have the strength to receive the truth? So long as we stand on the firm ground that the sexual instincts must be strictly socialized, we can be entirely open minded to such revelations.

Thus we must recognize that there are two great primal instincts—the one for self-preservation, the other for race-preservation. That one activates thought, feeling and conduct quite as much as the other, the activities in obedience to self-survival are obviously and naively expressed; those having to do with race-survival, the sex life, are repressed or find expression only in a devious, veiled, secondary or symbolic form and therefore do not seem so consciously important. But, if we have respect for the one instinct, we must have it for the other. We cannot treat it as evil per se, nor must we obscure or degrade the subject if we wish to understand; and, by understanding, sympathize with life and its greatest problem. We must recognize the supreme and transcendent importance and dignity of the sex life—the *vita sexualis*, by which we include not only the direct biological bearings of sex, but the secondary manifestations, the "love motive", so-called, and the other sublimations of it (by which is meant renunciations in various forms, finding expression in diverted, higher, personal or social good), and we must recognize the unsuspected range of thought, feeling and conduct that thus unmistakably belongs to it.

We must recognize its stupendous force—Nature surcharging all life with reproductive energy, in man, as Emerson says, "at the expense of much crime and disorder." Naturally a surcharged instinct easily goes wrong in our artificial man-made or man-meddled environment and so comes the large amount of perversion of the instinct—the great prevalence of secret practices, the large amount of homo-sexuality both in feeling and conduct and other inversions and perversions.

We must recognize the importance of normality of the function. The human misery that has its primary source from a lack here, the divorce courts could eloquently unfold.

We must recognize the large role it plays in mental disorders, especially in the so-called psychoneuroses, the hysterias, neurasthenias, etc. Psycho-analysis and dream analysis, by which we dig out the deeper and underlying bearings of the malady (of which the patient is himself often unaware) reveal many of the fear states and obsessions states, as disguised forms of repressions which have a sexual content. I have a girl patient barely eighteen who last week in her delirium went through the actions of a woman in labor. She believed—a very common delusion in adolescent insanity—that she had a baby. (I might mention Dr. Hoch's case here of similar sexual findings in a psychoanalysis, wherein the patient in her mental disorder went through the imitation of labor and where it appeared that years ago, having been in love with another man—a dentist—and, upon the occasion of the birth of her last child (she was a married woman), the attending physician had asked her to aid in the expulsion of the same by bearing down, she had deliberately and secretly refrained from doing so hoping that the child might thus be born dead and she could have a better chance of marrying the dentist. Now in her insanity, by a *mechanism* of *atonement*, she was going through these motions of bearing down, blindly making amends. In mental disorders, as *in vino veritas*, we often find naive and undisguised expressions of that which in the sane state is repressed into a complex, so-called, which complex may find expression only in dreams, perhaps, or in other so-called mental mechanisms, by which we mean certain modes of thought, by which we unconsciously give ourselves other explanations of certain feelings, thought and conduct, than the real ones which actuate us—these real ones harking back to more primitive desires and instincts—sex naturally playing a large role in them. Symbolism in art and every day life is of this class. Social and conventional requirements have made it so necessary to subordinate many of the elemental feelings and experiences, which are then submerged below the threshold of full consciousness, i. e., repressed. The censor of consciousness does not admit them full and free expression and the repressed feeling or experience must find expression in some disguised way. Some substituted form—a symbol. Naturally many of these repressions relate to the sex life. In social psychology, symbolism as expressed in art, dreams, poetry, humor and every day life may be regarded as a safety valve for the expression of repressions that might otherwise find outlet in unconventional, gross, or anti-social forms.

We must know that sex development in children begins earlier than we had believed, passing through several stages and vastly influenced by untoward circumstances. Over-exuberant love of the parent for the child may hinder normal development, cause sexual precocity, premature fixation of the libido, and the so-called oedipus-complex, especially in "only sons". I know of a woman who has always slept with her son, now fifteen years old, on the theory that she is conserving his morals. Excessive pampering, coddling and caressing develops erogenic zones. Seeking more and more agreeable sensations, the sybaritic child soon wants those that transcend the ordinary and reaches out for the extraordinary, long before inhibition is developed. Experience at this period greatly influences later life and mental disorders in later life often have their starting point here.

While we know these things and many more, there is much more that we do not know of the role of the vita sexualis.

So long, as I said, as we stand strictly for the socialization of sex activities and their sublimations, we can be open minded to all the revelation and in the degree that they are true must ultimately profit by them.

Rev. S. P. Delany, Dean, All Saints Cathedral: The greater part of the instruction should be given by the fathers and mothers of children and the fact that they do not, or cannot impart it is the best reason why efforts should be made to overcome their neglect. Any effort which may be made by the church or by the

schools, should be a course on the whole subject of parentage and the rearing of children, given in separate schools for boys and girls in the first and second years of high schools or in the trade schools. It is unhealthy to treat the subject in any place as a sexual question. The sexual life was never intended to be isolated. Parents must be taught to correct the evils in lives of present day children, such as self-will, disobedience, idleness, different forms of immorality, etc., and these same boys and girls must be properly trained to become competent fathers and mothers of the future. In this connection, the role which alcoholism and venereal diseases play in the production of defective children should be impressed. Boys and girls of sixteen or seventeen might be permitted to view these abnormal children in order to have this important fact and the hazards of immorality in general firmly fixed in their consciousness. The head of a school for defective children recently advised me that alcoholism and venereal diseases are responsible for 80% of defectives. A committee of women, physicians and clergymen should be appointed to look into the whole matter and devise a course of instruction to be proposed to the School Board of Milwaukee. I believe that a proper course would make a vast difference in the children born and the way in which they are raised and that pioneer work of this kind would be adopted all over the country.

Dr. A. B. Plowman, Professor of Biology, Carroll College, Waukesha: I agree with Dr. McMahon that much that has been said and written is unscientific, ill-advised, and even positively harmful. On the other hand, I cannot too strongly condemn what Dr. McMahon styles the "laissez faire" system.

The sexual instinct, like other instincts and impulses, is capable of being cultivated, directed and restrained if taken before habits are formed. It is inconsistent on the part of those who demand that we teach our children all about the nature, possible perversions, and control of all other instincts, appetites and passions, but who hide their faces in prudish horror when this most fundamental of all instincts is mentioned. Incalculable harm is being done in our schools by the use of unsexed charts and textbooks on physiology. The blank spaces and the glaring omissions in these charts and books, to my positive knowledge, enkindle youthful imaginations which have grown to a devouring conflagration.

Again I quite agree that the proper place for instructing girls and boys in the matters of sex is in the home; but I do not believe that at present more than 1% are inclined or qualified to give the instruction. I believe, however, that Dr. McMahon has set too late a date for the giving of sex instruction. The majority of sexual perverts have started wrong much earlier than their twelfth or fourteenth years. Sexual tendencies are largely inherent, and in the sexually debased the instinct and passions develop abnormally early. Instruction may fail to correct inherent depravity, but I believe it will save the sexually normal from the disastrous consequences of early ignorant association with abnormal companions.

Instruction should *not* be given in the public schools—at least, not *yet*, for the very good reason that there are but few, if any, properly qualified instructors. Chicago has tried the physician-lecture plan, and it has failed—naturally. The proper place to begin this work is in the colleges and normal schools. The process must be a slow one, because centuries of ignorant prejudice have to be overcome. In my work, I find it natural and easy to carry my classes, separated, of course, along through the study of an increasingly complex series of plant and animal types, with full consideration of every phase in the life cycle, until, without the least shock or remotest thought of impropriety, we find ourselves studying and frankly discussing the reproductive structures and functions of man. My students are none the less truly modest and pure-minded for the knowledge thus acquired. By such a process, working through the mature minds of college women and men, we can in time mould a saner public opinion, and train competent teachers and intelligent parents who will ultimately rear a generation of young women and men strong in the panoply of knowledge and pure in the robes of truth.

Rev. R. A. Ashworth, Pastor First Baptist Church: The interest of our boys and girls demands that this question receive consideration. I am, however, opposed to instruction in public schools—my opinion having been changed as a result of the experience in Chicago, where some of those who imparted part of the instruction do not know whether they did more good than harm. Knowledge is safety, and ignorance is accompanied by danger. Present and future parents should be given instructions. The problem would not be so large if vaudeville houses, which exploit sex and where harmful information is put into the minds of youth and adult as well, were closed up. The matter of sex should not be subjected to commercial exploitation. A new consciousness must be aroused. Boys and men must be taught a greater veneration for womanhood. For the present, we shall probably have to be contented with such instruction as may be imparted by parents and by churches. Knowledge on this important subject needs religious sanction.

Mr. Max Griebsch, Principal of German-English Academy: A few years ago, the teaching of the subject in public schools was advocated and practiced both here and in Germany. The pendulum has changed. Some instruction should be given, but only in privacy and only by the parents or by the physician. The children should be submitted to greater discipline by the parents and in the school. A greater sense of duty, of obedience, of responsibility should be developed, which in turn will make it easier for him to suppress evil desires and his actions will be directed more by reason. Above all, sense of shame should be developed. These characteristics will afford a foundation upon which the parents, physicians and clergymen can build an influence for the better in sexual matters.

Mr. M. C. Potter, Superintendent of Milwaukee Public Schools: I believe individual home instruction from parent to child is the ideal method in this field.

Knowledge never yet saved a soul. Mere knowledge, mechanically and perfunctorily offered and received, arouses none of these impalpable, sentimental reactions

which eventuate in balanced character. These reactions function most readily and fruitfully in the affectionate atmosphere of the home.

I consider diseases of the soul or mind as more serious than those of the body. The mental and moral consequences of a loose life are, in my mind, more important than the physical consequences, terrible as these are. The spiritual concomitant of prudent living, based upon mere knowledge of disastrous physical consequences, of sowing to the flesh and reaping corruption, is quite as real a social disease and a personal calamity as any which can grow in the rankest field of ignorance.

However, I am not advocating ignorance. I merely dissent from the proposition that upon the teacher should be dumped all or any of the duties in this particular field heretofore devolving upon parents, physician and clergymen, everyone of whom should own several copies of Arthur Trewby's "Healthy Boyhood" or some other similar book to lend, in friendly fashion, to their juvenile charges and acquaintances, who need some little clean and natural information along these lines.

Mrs. Julia Kurtz, Superintendent of the Martha Washington Home. Each year tens of thousands of little boys and girls are leaving the comparative safety of home and stepping out for the first time into the untried paths of school life, and the question under discussion is how and where they shall be taught the simple truths of sex to prevent the natural, healthy interest every child has in them from deteriorating into an unwholesome curiosity.

In early history it was generally held that moral training should be left to the church and the home, but today we are aware that there are thousands of homes that need a generation of instruction before the heads of the homes could intelligently convey to their children the first principles of sex physiology or psychology. There are a great many intelligent people who might, but will not, discuss this question with their children.

What are we to do with this grave and complex situation? It has been suggested that it should be left to the medical profession, but many physicians confess inability and others do not have time to give advice to well people.

Youth is the physiological time for right suggestion, the plastic period of mental development, the proper time for making lasting impressions. Education constitutes the chief distinction between the conduct of the savage and of civilized man. There can be no inspiration to wrong-doing in right teaching; education is certain to work for greater self-control.

If the subject is too delicate to be studied in the home, it should be turned over to suitable educators. Boys and girls are taught the physiology of the brain, nose, heart, stomach and other vital organs in the school. Why should not sex physiology be included? It is true that at present we lack qualified teachers, but that does not minimize the necessity for instruction in organs upon which depend the perpetuation of the species. Since the young must learn the nature of his or her sex some time, which is better for them, the wholesome and noble truths of science and morality, or the degrading street information?

The first obstacle to the introduction of the study of sex physiology and hygiene in the public schools is: public opinion. The majority of the present generation were taught to believe that ignorance and innocence go hand in hand. I believe that knowledge here, as elsewhere, is a blessing, and ignorance is curse. I further believe that sex physiology and hygiene rightly taught in the public schools would be a saving power to thousands upon thousands of girls and boys.

Mrs. Katherine L. VanWyck, Secretary Milwaukee Central Council Social Agencies: Boys and girls know about sexual life before they reach college. They know about it long before twelve to fourteen, as stated by Dr. McMahon,—I should say eight or nine. Proper instruction should be imparted early and only the whole truth should be employed in answering pertinent questions. Instruction should be given in connection with other related subjects. I do not know how to reach parents incapable of teaching their children.

Rabbi Samuel Hirschberg, Temple Emanuel El: I have no settled convictions on the subject, although I have given it considerable thought. I realize the need of instruction and at the same time I realize the great danger that may come to young minds that are unprepared for suggestions and premature information. I am opposed to all forms of promiscuous instruction or to class instruction in public schools. Instruction should be given individually as each child is a law unto himself. I favor the indirect method and believe a great deal can be accomplished in teaching biology. I doubt that knowledge in these matters determines morals. I believe that the parents should do the teaching.

Rev. Walter F. Greenman, Pastor of Unitarian Church and President of Central Council of Social Agencies: There can be no quarrel with Dr. McMahon's views on this subject once we acquiesce in his hypothesis as to the facts which enter into the argument.

As I read it, the brief is this:

There is rash and excessive consideration of this subject in some quarters. There is in other quarters a refuge in what frequently turns out to be a fateful silence; hence a child should, at the proper time, have considerable instruction from a parent, reinforced, if it need be, by the family physician.

Now that would be perfectly good if it did not discard from the consideration,—altogether, so far as I can see,—the environment in which the child lives. And what of that environment? Has anybody ever desexualized it? Was any child ever wholly insulated from the environment which has not been desexualized? Yes—a few, but precious few. While the great majority stand exposed to a most wholesale inoculation of such vitiated ideas, facts, fancies and downright untruths on the matter of sex, as most of us encountered in our own youth.

Except in very rare instances, exposure to such mental inoculation is unavoidable. If it is not, then we are confronted with the necessity of building up resistance. That is the one chief point to which students of this problem, "Instruction in Sex Physiology and Hygiene," have to address themselves.

To be sure, something can be done towards cleansing the environing mental atmosphere, and all kinds of social agencies in the line of juvenile protection and recreation are lined up for that work. That, I take it, is not the point to which Dr. McMahon addresses himself. He rightly takes it for granted. The one point which I would like to have in the back of his mind as he prepares his answer is this:

For the moment, discard all the children who have reached puberty and heard for the first time from parents' lips the instruction that should be given them. Then, meet the needs of all other children who may, perhaps, for only five minutes, at some time have been exposed to the vitiating influence of a most undesirable servant, nurse, or companion of their age and sex or of the other sex; the dimensions of which damaging influence may be imponderable.

In my judgment, more than ninety-five out of every one hundred of all boys and girls do not escape such exposure.

I believe that gradually, as the conspiracy of criminal silence is discredited, we shall build up a group of highly trained human instructors in sex matters who will present the whole story so impersonally and reverently, yet with such scientific accuracy, that it can do harm only to those who are at the start unsexed and not harm them seriously, because they have their own predisposition and no one has ever been able to keep even them with silence and a vain hope of innocency.

This does not permit any relaxation of the great duty of parents, as Dr. McMahon has pointed out it must supplement it in the public and parochial schools until the parents have caught up with their job. If the public and private should begin now to train those who are to become parents in fifteen or twenty years, in possibly two generations, we may have parents prepared to undertake what is plainly their chief responsibility in this matter.

Miss Stella Loeb, Abraham Lincoln House: After the people had become excited about this subject, we arranged for a physician to lecture to the women and to the boys in our house. All were grateful for the instruction. We have children in the home as young as 4 years and some of them already possess as much information on the subject as I did when I was 14. We teach all of our population that everything pertaining to the body is sacred, and we make our boys revere all womanhood. The instructor must know and have the confidence of the person to be instructed as well as know the subject.

Rev. C. B. Moulinier, Marquette University: Sex is an instinct—an appetite—and not a passion. It becomes a passion only when it goes beyond normal—absence of control. The problem is to keep it within normal bounds. How are we going to get this control—from within or without? I believe from both. Which is the proper agent to supply information from without—the right kind of teaching? I should say that the medical profession is nearer to being the right teacher than even the parents—nearer than teachers, by all means. The medical profession has been derelict in appreciating this fact. The members do not seem to realize all of the sacred duties they have to perform in the home. What young girl or boy does not respect the family physician, and who could do more to plant in her or him self-control? Further, not only instruction, but motive must be put into life, motive that means as much as life, motive that means even more than life. We are trying to correct evils, to control evils without giving sufficient thought to the Maker. Why should not the doctor call upon such motives when the young girl or boy is getting into dangerous ways? It is a worthy means, even though he may not believe in the Maker.

Environment is another means of bringing control into life of the young. Environment develops character and we, as older ones, should try to do as much as we can to make the environment right. If the environment is not right, no matter what the instruction has been, no matter what the development while in the shelter of the home, when the boys and girls reach the temptations of the city where filling the imagination and feelings with sexual excitement and gratification is permitted and endorsed, where places are to be found in which the young may ruin both body and soul—the only possibly remedy for control is the police force. Of course, I know how varied, how intricate, how multiform are all these forces and, consequently, how hard it is to place them under control. I believe, however, that combined efforts of all right-thinking people and of all uplift societies working together would be able to exert restraint on the powerful influences for evil which are growing all about us and that ultimately such influences and evils can be controlled. The sex problem is a difficulty for every individual, for every girl and every boy. Each one has her or his own problem which has to be handled differently. Instruction should be imparted in some true, natural, normal, attractive way, without arousing the imagination and without developing a tendency to morbidity. If I am correct that sex is an appetite, there is not much need for positive instruction, because it is one of the appetites that is also an instinct. The problem is to prevent the appetite from becoming a passion and all of the means mentioned should be used and many more.

H. W. Powers, M. D., Milwaukee Sanitarium: The manifold difficulties of this problem are such that one hestitates to generalize lest such generalization in its application to specific cases be far wide of the mark.

To form an opinion as to the optimum method of procedure in education of a child in this respect would involve a knowledge of what Havelock Ellis has called the innate psycho-sexual constitution which only careful study by a trained observer could disclose.

That children even at a comparatively early age may experience forcefully all of the emotions of love is a well recognized fact and must be given consideration.

I am of the opinion that the mother is the person upon whom we may best spend our efforts to disseminate a proper knowledge of sex and further that the imparting of such knowledge by the mother to her offspring should begin at any early age by the simple answering of the child's questions.

I am convinced from personal observation that many

seemingly erotic impulses in children are unconscious and that no good is served by rendering them conscious, some acts which may appear to indicate vicious tendencies may be only manifestation of the impulse and be devoid of sexual content.

If there be children of opposite sex in the family, the observation of their naked bodies will be the cause of questions which, when answered at the time, will do away with the air of mystery which is so sure to stimulate and concentrate the child's imagination upon the subject.

If there be but one child in the family, perhaps the observation of the parents in bathing would serve to stimulate the child's curiosity naturally and afford opportunity to treat the subject in an off hand way. These measures may serve to keep the subject upon a matter of fact basis and prevent precocious sexual consciousness which will be a great gain.

With older children, those nearing puberty, I can only say that up to this time the method of attack adopted by Dr. W. S. Hall in his two or three books upon the subject, in which he approaches the problem from the biologic side with the help of the parents, seems to me to offer the most good with the least likelihood of evil.

Dr. Ida Schell, Milwaukee: I would not teach sex hygiene to school pupils by so many oral lessons or lectures; I would want the parents to teach it by their example, and if they did not, I might give them a lecture or two, if I happened to be the family physician. But I would teach *right* notions and *right* conduct in the little civilities of the school room and the play ground and the street. And I would try to teach good personal habits, self-reliance and self-control. What our young people need is not more knowledge of degenerate sex life, but a moral fibre and backbone that will enable them to live right, decent, open lives in a clean wholesome atmosphere.

Dr. H. E. Dearholt, Milwaukee: I have little to add. As one engaged in public educational work, I have given this subject a great deal of thought. I have a very positive opinion against doing anything very active in the way of sexual hygiene instruction. The remarks made by practically all of the preceding speakers coincide so nearly with my views that I shall content myself by moving that we make it unanimous.

Rev. P. L. Johnson, St. John's Cathedral: I am a firm believer in the indirect method of imparting information with reference to sex subjects as being more efficient than the direct method. By the indirect plan, character and resistance are developed; whereas, the direct system merely supplies knowledge and information, which is just as apt to be used to evil purposes as to good purposes. Judicious information imparted by qualified persons to the individual is often helpful when given opportunely. The time and the nature of the information indicated depend upon whether the subject is a boy or a girl and upon the age, physical condition, temperament, vocation and environment. Experimentation with our present meager knowledge may be disastrous to the individual.

Dr. Winfield Scott Hall, Professor of Physiology, Northwestern University Medical School.

As evidenced in the booklets which I prepared for the American Medical Association, I believe that instruction in the physiology and hygiene of sex should be given by the parents in the home. To this end I believe that constructive social agencies should use every available means to instruct parents of young children and young home builders upon the great sacred truths of life.

More quickly to hasten the day when this instruction can be general in the homes, I believe that specially trained and fitted teachers should present these truths of life and principles of Social Ethics to the students in Universities, Colleges and Normal Schools.

Certain phases of Social Ethics and "Special Physiology" may well be presented to small, segregated groups of high school students. The younger the pupil the greater the care to be taken to avoid destructive suggestion, and to implant constructive suggestion. The teaching should deal with the positive and the ideal in life rather than with the negative and the distorted.

J. P. McMahon, M. D., Closing: Replying to Mrs. VanWyck's and to Dr. Plowman's criticism with reference to age, I advised that the mother should answer all pertinent questions propounded by the younger girls and boys, and that the mother should voluntarily teach the girls, and the father should voluntarily teach the boys after they have attained the ages of 12 and 13. It is perfectly evident from the discussion that the question is an important, large and complex one. I had hoped that the discussion would result in the crystallization of a more definite program for the guidance of future efforts. But the very nature of the subject, our rather meager information on it, and the fact that reasoning based on different fundamental theories, with reference to the whole subject, must naturally reach diametrically opposite conclusions, will probably preclude the possibility of dogmatizing for a long time to come. I believe, however, that the conference should exert considerable influence in correcting palpably harmful and misdirected efforts which are being employed rather generally here in Milwaukee and, in some measure, out in the state. Dean Delany's suggestion that a mixed committee be appointed is a good one; but, personally, I should be more enthusiastic about the possible results of the labors of such proposed committee if they were directed toward outlining a course of instruction for parents and providing means to bring the instruction to the parents instead of outlining a course for use in the public and parochial schools.

INFECTIONS OF THE NOSE, THROAT AND ACCESSORY SINUSES. THEIR IMPORTANCE TO THE GENERAL PRACTITIONER.*

BY FRANZ PFISTER, M. D.,

MILWAUKEE.

I have been a general practitioner long enough to know that cases of infections of the upper air tracts do not as a rule primarily fall in the hands of a specialist. Those cases which home remedies and counter prescribing do not relieve, seek the advice of their family physician, who, naturally enough, only in complicated or unusually stubborn instances refers them to the specialist. The large experience of the general practitioner qualifies him eminently for diagnosis as well as for the treatment of the common ailments of this region. The other forms frequently require special experience and facilities and such expert training as the constant use of these things will give.

My intention is not to tell you of the newest surgical methods which today are employed by the specialist in the curing of these cases, but rather to bring the different infections of the nose and throat, etiologically and anatomically in such relations as to simplify classification, diagnosis and management from a modern point of view. With the exception of the genito-urinary, the pelvic, and the traumatic infections, the mouth and the nose form the point of entrance for practically every form of micro-organism. We find that infections will either start at the upper air passages as in tonsillitis, rhinitis, or pass right on to organs of predilection, as for instance, the gastro-intestinal tract in typhoid fever and the lungs in pneumonia and pulmonary tuberculosis, etc. Again these general infections may in turn infect the upper air passages as a secondary or tertiary manifestation. A thorough physical examination and the laboratory will oftentimes have to decide the diagnosis.

If we are able to differentiate between primary and secondary infections in the upper air tract, we have simplified diagnosis and also our curative efforts to a large degree. Of late many diseases, amongst them rheumatism and allied conditions and exophthalmic goitre, are not any longer considered pathological entities and no less an authority than John B. Murphy declares the name of rheumatism is misnomer. One authority goes as fas as to dispute the correctness of our classification of neoplastic growths, claiming that most cases of so-called carcinomata or sarcomata, are nothing more than the product of an infection, or more probably of an irritation from the tuberculous, syphilitic or other forms of specific or mixed toxins. We do not any longer question the intimate relation between the chronic alveolar purulent discharge, and, for instance, a chronic tonsillitis, or between any focal infection and such things as arthritis, endocarditis, nephritis, cholecystitis and even appendicitis, etc., for enough statistical material exists to prove this conclusively. How often has a radical (I say radical advisedly) tonsil and adenoid operation changed a rheumatic or sickly child to a robust youngster and done so in a remarkably short time? Who can close his eyes to the fact that the former so-called scrofulous condition with chronic cervical adenitis has again and again yielded to the removal of the focal point of entrance of the bacteria in the mouth or nose?

The classification of infections of the upper air tract resolves itself into the following:

a. Infections of the nose and throat that are primary and have a tendency to remain localized, forming ordinarily no pathological lesions elsewhere although constitutional symptoms such as fever may exist.

b. Infections of the nose and throat due to the general invasion.

Example: exanthemata.

c. Infections of the nose and throat that have produced secondary infection in some distant part of the body.

Examples: rheumatism, tuberculosis, syphilis, endocarditis, etc.

d. Infections of the nose and throat that are of dental origin.

Examples: chronic tonsillitis and some infections of the antrum of Highmore.

e. Infections and lesions of the nose and throat which are purely secondary to diseases of other regions as tuberculosis and syphilis, etc.

With such a classification in mind, the history, possible existing epidemics and general condition of the patient taken in due consideration, the general practitioner will no doubt find himself enabled to diagnose and treat intelligently most of the cases that come under his observation.

*Read at the Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 8, 1914.

Prevention and Treatment.

I need not emphasize the importance of prevention of infections of the upper air tract since we know that comparatively few will remain localized and what a wide circle of all our general diseases owe their origin to a focus in that locality. Isolation in the exanthemata and in some instances in tuberculosis and syphilis, are things to be desired. Improved housing conditions with special reference to the condemnation of the tightly shut window, particularly when sickness is in the house; personal and general hygiene, and above all proper instruction as to oral, nasal and dental hygiene are to be our aims and duties in this connection.

The prevention of secondary systemic infection can best be carried out by a thorough local antisepsis in the form of sprays, washes and applications, and by such operative procedures as are calculated to remove the condition favoring focal manifestation, as for instance, the removal of diseased tonsils and adenoids in all instances where the glands of the neck are enlarged, or with the history of previous infections even if they do not seem large in size. All obstructions in the nose or the outlets of sinuses ought to be removed. The teeth should be examined in every case of infection and receive proper attention.

Next in importance is the prevention of complications in the regions of the upper air tract proper. The ethmoidal cells, the accessory sinuses and the ears are the structures chiefly involved. The cause for these complications is almost always an anatomical predisposition in the form of an obstruction and a consequent retention of the discharge. Without these obstructions, infected sinuses will clear up with the nose and with the throat without any difficulty. You will find the very same complication recurring in the same patient and even occurring in different members of the family proving the predisposition. In the ear, the forcible blowing of the nose in the presence of an acute infection of the nose and nasopharynx, seems to be as potent a factor in the creation of an otitis media as the direct extension of the disease by way of the Eustachian tubes. In the frequent administration of a weak adrenalin solution, (with a trifle of cocaine,) sweats and cathartics, we have a fairly good remedy for the re-establishment of drainage of the sinuses and the Eustachian tubes. Especially grateful is the administration of a few drops of such a solution in patients that are threatened with sinusitis or otitis media, administered with an eye dropper while the patient is lying on his or her back and repeated every few hours. In the exanthemata in children this practice should become a routine prophylactic measure, as much as the instillation of silver nitrate into the eyes of the new-born.

The subject assigned to me is much too large to be covered sufficiently in such a short space of time and much of importance could well be said, as for instance, in regard to the vaccine therapy of which we hear so much nowadays. While some good reports have been made, and while no doubt some cases, especially some chronic ones, have been favorably influenced by the employment of these agents, we more and more come to the conclusion that the indiscriminate use of phylacogens and other vaccine forms in acute cases is a dangerous practice. All writers on the subject seem to agree that if vaccines are employed the indications and the form of infection must be well established and that autogenous vaccine should be given instead of the stock products.

DISCUSSION.

DR. E. S. ELLIOT, Fox Lake: It gave me great pleasure to listen to Dr. Pfister's paper because I do not believe that there is any subject which is more vital to the general practitioner and also to his patients, than infections of the nose and throat.

The question with me is, are we honest and square with our patients, and are we giving them the right treatment in these infections of the nose and throat. When Dr. Pfister says to you that the general practitioner is eminently fitted to treat these cases of infection of the nose and throat, I shall have to disagree with him. It has been my experience that quite a number of years ago nearly every general practioner took out tonsils, and whenever there was any question of doubt about a tonsil it was simply snipped out. There was one general practitioner in one of the towns where I practiced, who made a specialty of taking out pretty nearly all the tonsils in that vicinity, and sometimes we met with embarrassing situations afterwards. In fact, I was called to cases where I would examine the patients and tell them they were suffering from a severe case of tonsillitis, and they would say, that is impossible. Doctor, you are mistaken in your diagnosis, because the tonsils were removed. I would simply beg their pardon and tell them that if the tonsils were removed they certainly were removed by an incompetent man, and simply the top was taken off.

No one knows better than the general practitioner that these focal and local infections in the throat are going to do all in their power to get to the organs of their predilection. In tuberculosis, for instance, they will try to locate themselves in the most favorable situation possible, as in the lung, for instance. There is nothing

they like better than to get into the general blood system and produce our rheumatisms and allied conditions. If we are going to cut off the top of the tonsil and give them free sway and let them do these things, are we not favoring them, and doing all we can to help these germs out. Therefore I hold that as far as I have seen from the work of the general practitioner, there are very few, if any, that are doing their duty when they do a tonsillotomy and do not remove the tonsil in its entirety. And when they are doing a tonsillectomy, I hold that it is an operation that is as serious as an operation for appendicitis, and that it should be in the hands of a man who is a specialist in that line. If we want to eradicate these conditions, and especially these infections that creep through the tonsil into the general system, the only thing for us to do is to remove the tonsil in its entirety. In my practice, when I find that the tonsils have to be removed, I simply tell the patient to go and have them properly removed. I tell them that I can take the top off just as well as my neighbor over in the next town can, but that I am not going to do it, for the reason that if I do take the top off of that tonsil, sooner or later they will come back more dissatisfied than they were before. I also tell them that if they will go and have the operation properly performed it will relieve the condition entirely, and that they will be absolutely cured. And then you will not find your patients constantly having cases of tonsillitis, quinsy, rheumatism, and such allied conditions.

Therefore I think that when Dr. Pfister says that the general practitioner is eminently fitted to treat these cases, that I shall have to disagree with him when it comes to removing the tonsils and doing a tonsillectomy as it should be done, and not a tonsillotomy.

Dr. J. Kenney, Thiensville: I think the most important phase of the management of infections of the upper air passages is prevention. And the responsibility for educating the people to the importance of the care of the nose and throat lies with the general practitioner. If the people are educated to the importance of the care of those conditions, they will more readily bring the patient to the attention of a physician, or a specialist, if there happens to be one in the community; and if not to a specialist, to their family physician.

It is common among the more uneducated classes to disregard the condition of the nose and throat. For instance, if children have snuffles, are hard of hearing, or are defective mentally, the parents seem to consider the condition as something that is natural; that the child was born with it, and they do not think very much can be done for it. It is up to the general practitioner to educate those people so that they will understand that some of the conditions can be remedied if taken in time. The family physician must educate and warn the parents that every case in which the tonsils have been repeatedly infected is a source of danger to the child, and must explain to them the different complications that will set in, and the different diseases that can result from those tonsils being allowed to remain in the throat. The same is true of adenoids, nasal polypi, or any other obstruction of the nose and throat. They should all be removed.

I agree with Dr. Elliot, that under ordinary circumstances the general practitioner is not competent to care for that line of work. Of course, as Dr. Pfister says, the general practitioner can handle the ordinary diseases of the nose and throat, such as little colds, and things of that nature, where he can employ the common, ordinary remedies; but I do not think that it was Dr. Pfister's idea that the general man should undertake the surgical procedures that are necessary in many of those cases.

I agree with Dr. Pfister in another respect, that we should pay particular attention to the sanitary conditions surrounding those cases, the housing, and the local and general hygienic conditions. The general practitioner should look after those conditions and see that they are improved.

I think that a great many cases of tonsillitis ought to be isolated. It has been my experience to have 3 or 4 cases of tonsillitis occur one after another in the same family. And that disease was tonsillitis, it was not diphtheria, because I had slides made. But to my mind it was slightly contagious. To be on the safe side I think we ought to isolate these cases to a certain extent.

Dr. G. V. I. Brown, Milwaukee: The essayist in referring to mouth infections very wisely said that the teeth should have proper attention, and that is a thing that I want to talk about for just a moment.

The reason I find it necessary to speak is simply this: that the old standards in that relation are gone, since it has been established that through transmutation the infection from the aural and nasal accessory sinus regions can be responsible for so many serious infections; and of course the responsibility of diagnosis in those regions is vastly increased. The mere referring of these patients in whose cases you may be reasonably sure there is an underlying causal factor, perhaps in the mouth, to a dentist is not sufficient. You will have to follow those cases yourself. The reason is very simple. The average dentist has long prided himself on the great care he would take, and the great length to which he would follow up in undertaking to cure diseased teeth. In many cases he merely succeeds in masking the trouble. And it is not by any means the teeth that look badly that are likely to be causes of trouble. The real sources of these serious infections are generally those in which the outward evidences have been masked and, therefore, the micro-organisms are more directly taken in than they would be if they were allowed to pass out with the secretions.

So that you need skiagraphs and indications of that character.

Some little time ago I prepared for the Medical Examiners' Association a list of questions and points which the general practitioner might notice which would lead him in the direction of recognizing the possibility of aural infection, and, basing his opinion upon these things he could, by following his case through and seeing that the proper diagnosis was made by the dentist, come somewhere near establishing the likelihood of infection from that region of a focus of infection in the mouth. The mere dismissal of a case in a casual way by

reference to a dentist does not mean anything at all. This is not at all a criticism of dentists. But this whole subject has made such wonderful advance during almost the last few months, that there has been no time for readjustment of dental practice to meet the situation, and you gentlemen must keep that in mind when you are undertaking to follow out the direction of the essayist of giving the mouth proper treatment.

Dr. W. E. Ground, Superior: This subject of aural and throat asepsis appears to me to be one of great importance. In my experience very few practitioners recognize the septic conditions existing there unless they are gross. Unless they are large and look bad, tonsils are not accused of mischief. It is not always the big large tonsil that is causing the mischief. In most tonsillar conditions the greatest amount of mischief is in the upper pole of the tonsil, where the plica comes down over the end. Very frequently the regular tonsil will appear comparatively healthy, but by passing a probe up underneath the plica we very often get pus and infected material. Only a few days ago I saw a case in which a patient had an osteomyelitis of the lower end of the radius, in which there was no apparent infection, but on investigation we found that the upper pole of the tonsil was decidedly infected. The mucous membrane around the tonsil, extending almost to the uvula, was red, and the whole covering showed some evidence of disease, but not to the extent that we found by closer investigation. In cases where it was not practical to remove a tonsil I have frequently split up this covering toward the upper pole, and have adopted the procedure of circumcision of the tonsil, and I have found that you can very frequently eliminate infections by doing that, almost as well as you can with the average tonsillar operation, which of course is just a tonsillar amputation.

Incidentally I think reference was made to pyorrheas, and touching on that I think this subject is not given attention by the average man. A great deal of septic absorption can undoubtedly occur around teeth, pus pockets, etc. If you have a few teeth with pus pockets that do not drain, you can get a great deal of septic absorption. Jast a few days ago I saw a reference to so-called pyorrhea or Riggs disease. This problem has been worked out somewhat by Allen J. Smith, of the University of Pennsylvania. They connect up a parasitic ameba with the causation of pyorrhea. They have been working on that for a little while recently, and within the last day or two I saw that Bass, of New Orleans, has extended this work, and has claimed a great benefit from the hypodermic injection of emetin. In fact they claim it is almost specific, and if this is true it will be a great thing for the relief of that troublesome disease.

Dr. Williams, Chippewa Falls: This is a subject in which I have for a long time been very much interested, because I am a living example of this trouble. I come from a family which has been healthy and well. Dr. Sheldon has known me for a long time, and was the first man that ever prescribed for me, when I was attending school at Madison, for my first attack of asthma. I am going to tell this because it is one on him. He gave me a lot of medicine which did not do me any good. Later on when I entered the medical school I was still suffering from this form of asthma which had attacked me at Madison. I had never had it until that time. It was not until I was serving my hospital year in St. Paul that I struck a man that did me any good, and that was old Dr. Shadel, who has now gone to the beyond. I was one of the pioneer cases that he had of what Dr. Shadel at that time called an experiment of the accessory sinuses. He was the man that opened up these sinuses and got drainage and removed the turbinates, which absolutely cured me of all my asthma.

Here is the point that I wish to call attention to, and especially in my own case. We are roasting the general practitioners as not being able to treat these diseases, but I believe that the general practitioner is able to treat them. A large part of this trouble comes from carelessness. The average physician will say, "Oh well, it is nothing much, there is no appendix to take out, and he will not die of this disease," and he lets it go. I think there is where a number of us make a mistake. If we would spend a little more time on these cases that come to us with infections, we could help them. As the doctor has pointed out, the administration of adrenalin, and cocain and boracic acid is an important thing. I do not find anyone using this, but I did it myself, and it gave me great relief, and I have used it ever since in my own work.

As to roasting the dentist, I do not think that is right. I believe the average dentist comes out of school to-day just about as well educated as your medical man. I believe if you give the dentist a chance he will straighten up a lot of these cases on which the doctors fall down. The reason we say the dentist does not do the work is because the dentist does not get a chance. If the physicians to whom these cases come do not see them, the dentist does not. If when they come to the physician he will impress upon them that it is a serious condition, and that it is important to have the nose and throat, and especially the teeth, attended to, I do not believe we will have as much trouble as we have to-day.

Dr. Waters, Grand Rapids: We have been taught that the cause of adenoids and large tonsils in children is repeated colds. Now I have an idea that that teaching is wrong. I cannot prove my idea, but the idea is this, that adenoids and enlarged tonsils are simply a manifestation of rickets, caused by the improper feeding of children, whereby we have an overgrowth of the adenoid tissues. In my practice I advise parents to feed their children more meat after the period of lactation. It is no common thing, among German families especially, to allow children, after they are through with the period of lactation, to eat all the potatoes they want. It is easier for them to chew them, and they are more easily swallowed. My idea is that a great deal of the trouble we have with the nose and throat in children, is simply due to improper feeding, producing this adenoid overgrowth. You not only have it in the throat, but also in other parts of the body. I do not know whether the idea is correct, and I cannot prove it; it is simply an idea.

DR. H. E. NICELEY, Waukesha: I want to emphasize what the last speaker has said. Of some 500 cases of diabetes that I have seen in the last year, 90% had pyorrhea. Our belief as to the cause of this is that these people do not use their teeth, and do not eat enough vegetables other than potatoes. They eat practically only potatoes and meat. If we could teach our people to use vegetables, we would reduce the high cost of living, and get rid of a great many of these infections of the mouth and throat, and I think it would probably put some of us out of business.

PRESIDENT: If this discussion does not do anything more than emphasize the importance that we should attach to the ordinary colds and to those minor ailments as possible sources of serious difficulty, it certainly has been worth the time that we have expended upon it.

If there is nothing further, Dr. Pfister will close the discussion.

DR. FRANZ PFISTER, Milwaukee: There is not much more to be said. When I said that the general practitioner is able to handle those cases properly I had in mind that the general practitioner will be able to prevent most of those things that we are talking about.

In regard to the cause of tonsillitis, or the enlargement of the tonsil, or hypertrophy of the adenoid tissue, I cannot agree with the gentleman that spoke with reference to those things. I would rather say that the rickets would be the result of the glandular enlargement than be the primary cause. We have a pretty good explanation why the tonsils and adenoids and mucous membranes, particularly in the upper air tract, should be irritated, chronically irritated, and a chronic irritation of the mucous membrane in the glandular system produces hyperplasia and enlargement. The theory is, the change in the living methods. The child is brought up in overheated dry rooms. That is not the way the child was originally to be brought up. When the child is old enough, it goes into a school room which is equally dry, without sufficient moisture, but with plenty of dust and so on. We find that the children are subject to irritations of the mucous membrane of the nose and throat by virtue of the housing conditions and the conditions in the schools; and unless those conditions can be changed there will be an increase in the tonsil hyperthrophies in proportion to the increase of bad conditions.

THE CARDIAC ACCIDENTS OF A YEAR'S COLLEGE SPORTS.*

BY WM. S. MIDDLETON, M. D.,

MADISON, WIS.

Our observations on college athletes and a review of the literature on the subject of the ill effects of athletic overstrain on the heart have emphasized the dearth of data on the immediate effects of physical overexertion. Such data, in order to be of value, must be obtained by careful observation on the part of the clinician, unbiased by active participation in the preparation of the athlete in training. Under-estimation of the secondary effects of acute cardiac dilatation, on the part of the average trainer, has resulted in the failure to report such cases injured by over-activity in competitive sports. The co-operation existing between the Department of Clinical Medicine and the Department of Physical Education at the University of Wisconsin has made possible a careful study of athletes before, during, and after training. Before a student may train for a given competitive sport a permit to train must be obtained following examination at the University Clinic; during the period of active participation in that sport with the co-operation of the coach close observation is made possible, and after the training season the student voluntarily seeks the advice of the Medical Adviser. In presenting the results of such investigations it is necessary that it be given in the form of reports of individual cases. This study deals with the gross cardiac changes aside from hypertrophy determined in men participating in the various competitive sports from April, 1913, to April, 1914, inclusive. The last case was recorded May 2, 1914. This period may or may not have been a representative one, but the chief college sports have been considered.

An approach to the question is best effected through consideration of the physiology of circulation under acute physical strain.*

Primarily, the circulation responds to the stimulus of physical exertion by an increase in pulse rate, venous, arterial and pulse pressure and systolic output of blood. According to Lowsley (1911), and other observers the relation of these conditions is as follows:

1. Physical effort is attended by the following conditions of the pulse rate:

a. Rapid rise of the pulse rate, not, however, reaching its height as soon as the blood pressure.

b. A comparatively even curve during the continuance of exertion.

c. On cessation, a fall of the pulse rate to normal or subnormal, less rapid than the systolic curve fall.

d. Secondary rise of the pulse rate, "a reflex effort due to low blood pressure of the subnormal stage" (Lowsley) on cessation of the exertion.

*From the Department of Clinical Medicine, University of Wisconsin.

*(Shumacker and Middleton, J. A. M. A., April 11, 1914, Vol. LXII.)

2. Muscular exercise sufficient to cause an increase in the cardiac activity, causes a rise in the systolic and the diastolic arterial blood pressure, as well as in the venous blood pressure. There is a disproportionate increase in the systolic pressure, which leads to an increase in the pulse pressure.

3. After the primary rise of the systolic pressure to a maximum, there is a decline of varying degree, which never reaches the normal level until cessation of muscular effort. At this time it usually declines to or below the normal level. The diastolic pressure follows the systolic curve, but tends to reach the maximum level slightly later. This is likewise true of the return of the diastolic pressure to the normal line. The diastolic pressure invariably becomes subnormal on the cessation of exercise. Lowsley deems the length of the subnormal phase in this relation to be a measure of the circulatory fatigue following the exertion.

4. The pulse pressure curve generally follows the contour of the systolic curve, explained by the greater systolic fluctuations.

5. Unless the exercise be very moderate and accompanied by deep breathing the venous pressure usually is quickly raised to a maximum to be maintained throughout the period of exertion. It is the rule to have a sudden drop of venous pressure to normal after exercise.

6. Where an exercise requires severe strain with chest rigid and glottis closed, the blood pressure is disproportionately increased over the heart rate and the venous pressure is especially high.

The studies of the change in the morphology of the heart on sudden physical exertion have led to two different opinions based on and explained by the form of examination of the two groups of observers. Percussion methods have determined an enlarged area of cardiac dullness; whereas the more tedious procedure of orthodiagraphy, which from the time consumed, represents, as a rule, the low blood pressure or subnormal phase following the exercise, demonstrates a smaller cardiac area. Evidence favors the view that the heart may, with work, dilate more on diastole and contract more efficiently on systole.

The most important immediate ill effect of cardiac overstrain is dilatation. Acute cardiac dilatation following on a long period of increased cardiac effort and that coming on as a result of a single violent effort vary only in their mechanism. Of course, under either circumstance the heart may compensate almost immediately and the person suffer only slight transitory inconvenience. These cases, while probably of sufficient moment to warrant careful study and the correlation of data, rarely present themselves for study.

In either case, prolonged fatiguing exertion or short concentrative effort, the determining factor is a depression of myocardial tonicity. In the former, from the fatigue of a continued demand for increased work through increased venous pressure largely, the left or systemic ventricle first feels the effect. If normal, the left ventricle meets the increased work with more active contraction but under the toxic effects of fatigue products and the increased load of the circulation, systole becomes less complete so that the heart begins to show increased diastolic dilatation resulting from the residual blood. Then too, since diastole is more affected by overactivity than is systole, the myocardial nutrition may be interfered with. As this condition advances the diastolic distention progresses finally to such a degree that the left auriculo-ventricular valve becomes incomplete from stretching of the orifice, retraction of the chorda tendini, or from edema of the valves. In the case of a sudden heavy physical effort, we find the venous pressure suddenly markedly increased by the pump-like action of the skeletal muscles in throwing blood toward the heart and the peripheral resistance greatly raised by the muscular contraction reducing the size of the arterioles. Under normal conditions, this double increase in the circulatory burden is accommodated in the heart by moderate diastolic dilatation. This cardiac tonicity is frequently overcome, however, as is evidenced by a sudden stretching of the myocardium under this load.

The cases for consideration are for the most part concerned with the question of acute cardiac dilatation. We have not endeavored to arrange them acording to any pathologic or clinical classification, but merely present them in the order of their occurrence, so that the unusual phase of the athletic problem may assume proper proportions. None of these cases have previously been reported in detail.

Case I. Sept. 23, 1912. Heart normal.

April 1, 1913. One year football. Now in training for crew. Heart, resting, rate 76. No cardiac enlargement; mitral systole is impure.

After work, pulse rate, 118. Mitral systole, murmurish.

April 8, 1913. Distinct mitral systolic murmur is audible and is transmitted to the axilla.

June 6, 1913. Mitral sound is now a mere whiff compared with the previous murmur.

This case was, undoubtedly, one of moderate cardiac dilatation, which was subsiding at the time of the last examination. The patient reports that for some time previous to the examination of April 1, 1913, he had been running five miles daily in addition to rowing. Subsequent examinations on October 24, 1913, December 13, 1913, and on February 10, 1914, have shown slight enlargement to the left and a slurred first sound. We have permitted him to play baseball and basketball under close observation. Even at the present time, strenuous exercise develops a mitral systolic murmur.

Case II. September, 1912. After three to four years of crew work. Heart is enlarged one-half an inch to the left. Sounds: first, poor muscular quality but booming; second, accentuated. Overactive, long systole.

April 18, 1913. Consults us for "lightheadedness and groggy feeling". Gaseous distention developed after work on machines. Heart: resting, rate 115. Blood pressure: systolic, 122. Diastolic, 90. Pulse: rapid, irregular in force and volume.

Cardiac dullness is enlarged three-fourths of an inch to the left. Marked irregularity of action. From the mitral area a loud metallic systolic murmur entirely replacing the first sound is transmitted over the entire precordium, best to the axilla and the back, however. Second sound of poor quality. *After exercise,* pulse rate 134. Was operated on July, 1912, (nasal) and no cardiac lesion was detected.

The pathological lesion is a *chronic mitral valvulitis* with accessory nasal sinusitis as the underlying etiologic condition but strenuous physical effort the determining factor.

Case III. Male, 24. Three to four years football and crew up to March, 1913.

Sept. 30, 1910. Heart is enlarged one-fourth of an inch to the left. Otherwise, physical examination of the heart is negative.

Sept. 18, 1911. No change in the cardiac condition.

Sept. 20, 1912. Heart dullness increased one-fourth of an inch to right and one-half an inch to the left. Sounds are good.

March 29, 1913. Granted permit to train for crew. Heart: *Before exercise*: Pulse rate 54. Apical impulse is palpable in the fifth interspace outside the midclavicular line. No thrill. No murmur. The first sound is booming. The area of cardiac dullness is mapped out as on Sept. 20, 1912. On *exercise,* the pulse rate rises to 78.

April 26, 1913. For the past week the patient has been under observation, complaining of dyspnea and grogginess. While the size of the heart and the auscultatory signs at rest are unchanged, on exercise we find a marked definite mitral systolic murmur, transmitted to the axilla. He is advised to discontinue crew.

Feb. 4, 1914. Coached football last fall. No training since the above date. Heart is enlarged three-fourths of an inch to the left. Sounds: mitral muscular element, soft, slow and deliberate; second, at times, split. The patient has lost ten to twelve pounds since last fall.

This patient suffered from a *subacute cardiac stretch,* the direct result of repeated long periods of training. The heart after a year of comparative rest had not regained its normal tone.

Case IV. Male, 21.

Sept. 27, 1911, and Sept. 20, 1912. Negative as to pathologic cardio-vascular findings.

May 21, 1913. With a college (department) crew the patient rowed a distance of about eight miles last evening. Ran home, ate a very moderate dinner, then became quite dizzy. Pulse rate went up to 150. In two hours this had dropped to 104. Today the pulse rate at rest is 80 and the pulse is dicrotic, goes up to 100 on the exertion of fifty stationary running steps. Some precordial oppression but no marked pain. The cardiac dullness extends one-half an inch beyond the right border of the sternum and three-fourths of an inch beyond the left midclavicular line. No murmurs or irregularity of action.

May 23, 1913. After a rest of two days, the heart has returned to its normal size.

This is undoubtedly a case of quickly *compensated cardiac dilatation,* occurring in a previously normal man undertaking the strenuous effort of crew work without proper training.

Case V. Male, 22.

Note—Patient has a past medical history of pleurisy and several attacks of tonsillitis.

Oct. 2, 1911. Heart dullness extends one-half an inch beyond the left midclavicular line. Cardiac sounds are good.

Oct. 21, 1913. At the beginning of the third year in the distance running races, cardiac dullness extends up to the second interspace and one-half of an inch to the left of the midclavicular line. The first sound is lacking in muscular quality; second sound is snappy.

Blood Pressure—	Systolic	Diastolic
Before 50 running steps,	112 mm.	88 mm.
After 50 running steps,	144 mm.	100 mm.

Dec. 12, 1913. After running two miles notices pain and a feeling of weight in the right side below the costal margin. This compels him to stop and walk. By "lifting up" on the right side, he is able to run one mile without feeling it. With the exception of a mitral systolic slurring, there is no cardiac change from October 21, 1913. The liver is just palpable below the costal margin. The pulse rate is 84.

Blood pressure: Systolic, 126; diastolic, 94. In the afternoon this patient ran two miles and came directly to the office. At this time, the liver is palpable and tender about three-fourths of an inch below the costal margin of the right midclavicular line. No apparent change in the size or the sounds of the heart. The pulse rate is 128.

Blood pressure: Systolic, 136; Diastolic, 100.

This patient shows therefore a *definite hepatic congestion* without other signs of circulatory embarrassment elsewhere.

Case VI. Male, 22.

Oct. 25, 1910. No pathologic findings. Up to the fall of 1913 he had played basketball for three years and had run the hurdles for a year.

Nov. 6, 1913. After an attack of la grippe, which confined this man to bed for three days ending Oct. 23, 1913, he continued his basketball work against our advice. Consulted us on the above date, November 6, 1913, complaining of anginoid pains and a feeling of weakness. The pulse rate is 84 and is of poor force and irregular rhythm. Heart: Apical impulse just outside the midclavicular line in the fifth interspace is very diffuse. The cardiac dullness is enlarged three-fourths of an inch to the left. The cardio-hepatic angle is right. The cardiac sounds are as follows: first, weak and reduplicated at irregular intervals; second sound, poor, at the mitral area. In the fourth and the fifth left interspaces, a distinct short blowing systolic murmur is heard and is slightly transmitted to the left but is not definitely heard at the apex.

Blood pressure—Systolic	92 mm.
Diastolic	68 mm.
Pulse pressure	24 mm.

Nov. 11, 1913. Dullness now extends only one-half an inch to the left of the midclavicular line. The heart sounds are fair, but the first is not of good muscular quality.

Blood pressure—Systolic	106 mm.
Diastolic	74 mm.
Pulse pressure	32 mm.

The case is one of *subacute cardiac dilatation* resulting from active exercise putting a rather heavy strain on a myocardium which had not yet recovered from the toxic effect of a grippy attack.

Case VII. Male, 22. One and one-half years' crew, up to April, 1914.

Sept. 30, 1912. Heart is normal to all ordinary measures of physical examination.

Rowed at Poughkeepsie on the freshman crew in the spring of 1913. Lost thirty-eight pounds during the training period.

Feb. 11, 1914. Heart is enlarged one-half an inch to the left. Sounds are good.

April 18, 1914. Complains of dyspnea on sudden exertion. The first sound is very deficient especially after work. Blood pressure: systolic, 130; diastolic, 94.

April 25, 1914. The improvement in the symptoms and sounds after a rest of one week leads us to advise against continuance of rowing.

We have deemed him a case which had just started to show the cardiac effects of physical overstrain.

Case VIII. Male, 23.

Sept. 28, 1910, Sept 18, 1911. The heart shows no pathologic lesions.

Oct. 4, 1913. The patient gives this athletic history: Has been running one-fourth mile and sprints for six or seven years. Twice he has been carried from the field after a quarter mile race. Heart: The area of cardiac dullness is enlarged one inch to the left and one-half inch to the right. Sounds: first, clear and strong; second, particularly the pulmonic, accentuated.

May 13, 1913. Blood pressure: Systolic, 126; diastolic, 96.

Feb. 9, 1914. Same cardiac condition pertained.

May 5, 1914. Three days ago the patient was entered in a dual meet. Ate lunch at 12:30 p. m. Ran the 100 yards and then vomited. In a short time he ran the 220, felt badly, and again vomited. Then he was started in the 440 yard race. Of this race the patient remembers only the first half, "ran the last 220 just on my nerve." Had no feeling in his legs and just moved mechanically. Collapsed at the end of the race; vomited and was unable to walk for one-half an hour or more. The following day he felt fairly well. Then jogged the 440 yesterday in about 70 seconds. At the end he experienced marked precordial pain and distress, palpitation and perceptible irregularity of cardiac action. At the present time, the pulse rate is 84, very irregular in rhythm and volume. Blood pressure: systolic, 135; diastolic, 95. Tonal arrhythmia. Area of cardiac dullness extends from the top of the third rib, one-half of an inch to the right of the sternum to just inside the left anterior axillary line. The cardiac hepatic angle is obtruse. At rest, the first sound is murmurish, soft and poor in muscular quality, second sound is accentuated. After fifty stationary running steps, a distinct systolic murmur is heard, best at the apex and faintly transmitted to the axilla. The arrhythmia becomes more marked. The roentgenogram was conclusive in the diagnosis.

This is a very marked, extreme and rather dangerous *acute cardiac dilatation,* the direct result of a continued period of athletic training and a series of quickly repeated cardiac overstrains.

It will be noted that these cases are of several varieties. Cases IV and VI are instances of cardiac dilatation promptly returning to normal tonicity. While it might be argued that these cases can hardly be classed as abnormal, yet no one will gainsay the possibility and indeed the greater probability of subsequent dilatation in such cases. In other words, there is a potential weakness here. These two cases differ, however, in their underlying etiologic factors: in Case VI, we find a man whose very lack of training should have excluded him from participation in vigorous rowing, suffering from a slight cardiac stretch as the result of overexertion: in Case VI, the caution of many observers was overlooked, viz., the danger of cardiac dilatation in those convalescent from acute infectious diseases, even as mild as nasal colds. Much chagrin and the loss of valuable men could be avoided, if this injunction were respected.

We believe Case I to be a man whose physical had outstripped his cardiac development. This is a problematic question and one which would prove difficult of solution. The fact remains that as a result of physical overstrain a previously normal heart showed signs of abnormality, which have not yet disappeared. This man has been allowed to enter certain competitive sports under strict medical supervision since his moderate dilatation.

Case II is an unusual case of complete cardiac breakdown under the strain of crew work. The probable etiologic factor in the production of his mitral endocarditis was a chronic sinusitis but the physical effort of rowing was undoubtedly the determining cause. A word in explanation of this conclusion might be of value. In the fetus, where the greater burden of the circulation falls on the right heart, right sided valvular lesions are more common than left sided; in adult or postnatal life, left sided lesions gain the ascendency. Roy and Adami have demonstrated experimentally edema of the valves along their lines of closure caused by physical effort or overstrain without interference with the coronary circulation. It, therefore, seems only reasonable to assume that the valves made edematous by overstrain will be a favorable lodging place for an acute infectious process.

Case V is merely of interest from the standpoint of the possibility of circulatory insufficiency in organs other than the heart.

Case III and VII are the cases of crew men showing the earliest effects of circulatory incompetency, the result of cardiac overstrain. They both displayed first the typical "physiological" hypertrophy, but on the continuance of their efforts began to show the symptoms and physical signs of incompetency or subacute dilatation. One of these, Case III, has not returned to normal in the year following his slight cardiac disturbance.

Case VIII is the typical extreme acute cardiac dilatation, the direct result of an acute overstrain coming on a heart hypertrophied as the result of repeated periods of training. He is a chronic athlete.

Certain writers contend that cardiac dilatation is within the range of normal and that at least in

all but exceptional instances, it is soon compensated and leaves the heart in its previous normal state.

We would most earnestly impress the fallacy of this opinion. In many cases the degenerative myocardial changes are permanent. Two cases in point may be cited briefly: the first appeared as Case 802 described by Shumacker and Middleton in J. A. M. A., April 11, 1914.

Case A. A crew man of one and one-half years' experience who suffered an acute cardiac dilatation after rowing on machine, still shows all the evidences of a chronic myocarditis with relative mitral insufficiency over two years after the accident.

Case B. An entering student with a well defined chronic myocarditis, who gave the following history: Two years ago, he had driven cattle four miles from home and had run all the way back. Following this exertion, be became faint and powerless for about an hour. The next day the doctor was summoned on account of nausea and vomiting. His case was, at that time, diagnosed as hepatic congestion resulting from acute cardiac dilatation.

From our brief report, it would appear that acute cardiac changes from physical overstrain are more frequent than the literature would indicate and the results from such accidents more permanent and more serious than we have heretofore believed.

In conclusion, we desire to urge very strongly our firm conviction in the necessity of proper, continuous and strict medical supervision over all forms of competitive sports, and the co-operation of the trainer and coach with the medical man. The careful recording of all cases of organic lesions and functional disturbances resulting from physical overstrain is essential for the melioration of the evils of competitive sports, now existing.

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PILO-NIDAL SINUSES.*

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In formulating a clinical study and report, usually the more important and vital questions are the subjects that engross the interest of the observer, and consequently our knowledge regarding the simpler pathological conditions may be insufficient or even lacking. The subject under consideration, Pilo-Nidal Sinus, has to do with a simple, superficial condition, which, in an uncomplicated state, may easily be remedied by surgical measures, once the true status of affairs has been recognized.

Pilo-Nidal or sacro-coccygeal sinus, or postanal dermoid is a congenital malformation occurring in the midline over the sacrum. The embryological development is interesting. The closure of the medullary groove in the embryo begins in the cervical region and spreads forward and more slowly backward, so that the anterior end of what then becomes the medullary tube or canal, achieves considerable differentiation before the posterior end of the canal is closed. Near this point of late closure of the caudal or terminal end of the neural canal, ectodermal cellular inclusions account for the origin of these postanal dermoids or sinuses. The filum terminale, which results from the more rapid growth of the spinal column than of the spinal cord, perforates the meningeal covering in about the mid-sacral region, and then becomes attached to the periosteum at about the sacro-coccygeal junction. In this region the subcutaneous tissue is scant, so that the epidermis may be attached directly to the periosteum, and in 20 to 30 per cent. of cases a definite sacro-coccygeal or postanal dimple is found. In the general examination of cases at the Childrens' Hospital sacro-coccygeal dimples are frequently noted, and especially in cases showing congenital defects deep pits or dimples in this postanal region have been observed. A fibrous, cord-like, subcutaneous thickening may sometimes be felt leading upward from the dimple.

The simple Pilo-Nidal Sinus varies in length from the fraction of an inch to several inches. It is more or less in a straight line running up the back in the mid-line superficially over the sacrum, with a small pin-head sized external opening about over the sacro-coccygeal junction. The complicated forms may have several openings not necessarily in the mid-line, and the sinus tracts may branch and be very tortuous. Ordinarily the sinus tract is lined with true epithelium, which may contain hair follicles and sebaceous glands, and thus at times retention cysts are formed, which are filled with caseous material, cellular detritus, and hairs, from which elements symptoms may arise if the part is subjected to irritation or trauma, when infection and inflammation set in, and result in abscess formation.

Pathological examination shows the lining of the sinus tract to be of squamous epithelium, often containing hair follicles and sometimes sebaceous and sweat glands, the character of which indicates to some observers that the sinus formation is the result of a simple infolding of skin; but bearing in mind the embroyological development in this region, the explanation of the formation preferably seems to be that epidermal cellular inclusions may occur in the late obliteration or closure of the terminal part of the neural canal.

According to Mallory these cell inclusions in the mesoblastic tissue originate from the caudal remnant of the neural canal, rather than from the neurenteric remnant, from which part closely allied

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or related tumors of the postrectal or rectal dermoid type may originate.

In the nine cases of postanal dermoids or pilonidal sinuses that I have observed at various times, the clinical symptoms and manifestations have been similar to those recorded by Griffin and Archibald in the Mayo Clinic Publications for 1912, in their study of thirty-one cases. The patients are usually young adults, who give a history of a painful postanal swelling, from which there may be a more or less constant discharge of a watery, subaceous, or purulent character. In some cases no definite swelling such as the retention cyst or abscess formation is observed, although intermittent discharge from the sinus produces the discomfort of moisture and irritation of the local area, and in practically every case the skin irritation and tenderness are the chief complaints. Such discharge and discomfort may be tolerated for years, although usually the individual seeks relief much sooner, for the continued itching and rubbing may produce sufficient trauma to the parts to start infection, which often sooner or later sets in. The patient then consults a physician, who if not alert to the possibilities will treat the condition as a simple abscess formation, and then later be at loss to explain why the part does not heal, and often a diagnosis of tuberculosis is then made.

In two cases seen recently in private practice, the one was a young woman of twenty-three years, who gave a history that for months previously she have been troubled with an intermittent painful swelling, with more or less constant moisture and irritation in the lower sacral region, and finally that infection with marked abscess formation resulted. She had been treated for a simple abscess, and incisions had been made on both sides of the gluteal groove, but failed to heal after two months constant treatment. A very definite sacro-coccygeal dimple was present, but the mid-line orifice in the pit of the dimple was closed owing to more efficient bilateral drainage. It was impossible to follow and outline this tract completely owing to the inflammatory condition of the tissues, for the sinus, that was originally lined with epithelium, had lost its lining membrane for the most part, and no hair was present, as a result of the inflammation and later of the operative interference. However, every vestige of trouble, including a small piece of gauze packing was removed. The mid-line incision was closed with drainage, and the bilateral openings excised and closed. The lower part of the wound in this case broke down, but healed in by granulation in about three weeks. This was several months ago and no further trouble has been encountered.

The other private case was that of a man of twenty-eight, who gave a history of having been bothered for several years with a small swelling that would intermittently form near the end of his back-bone. This swelling would become painful and then apparently rupture and disappear, although the skin irritation would persist and be uncomfortable from the more or less constant moisture and discharge in this postanal region. He had been treated at various times by four different physicians who had probed, treated, and incised the part, gradually clearing up the acute symptoms from the infection, but after the inflammation had subsided the patient would in a short time begin to notice the old discharge and irritation. When this patient consulted me at the office there was no postanal swelling to be observed, but a fibrous, subcutaneous thickening could be felt beginning at a pin-head sized opening over the upper part of the coccyx, and extending up over the mid-line of the sacrum, with the surrounding skin moist and slightly irritated. Later with a fine flexible probe, the sinus tract was traced upward about 3½ inches, and under local anesthesia was dissected out intact with the probe in situ. On opening this cord-like tissue many long hairs and a little sebaceous material were found in this epithelial lined tract. The mid-line, longitudinal incision was closed with subcutaneous cat-gut, and interrupted black silk sutures without drainage, and healed per primum. There has been no recurrence.

In the ultimate report from twenty cases at the Mayo Clinic, fifteen cases remained healed, four not operated upon again, and one operated upon three times without healing. Their cases averaged eight and one-half weeks in healing, requiring various times from four to sixteen weeks. In a Boston hospital last winter, I had the opportunity of seeing a case that had been operated upon four times. Temporary healing would take place and then the sinus would open again. In these complicated cases, there may be several sinuses or inclusions, and then complete dissection may be made difficult when the condition has been treated in other ways than by careful and complete excision, such as bismuth injections, caustic or cauterizing treatments, draining abscess, and like efforts to cure without proper surgical measures.

Thus in some cases the diagnosis is obscured, and, unless the relative frequency of this condition is kept in mind, a saccro-coccygeal dermoid or sinus may be confused with anal fistula, ischio-rectal abscess, tuberculous sinus, and other more unusual conditions, but with a complete history and careful examination, differentiation should not be difficult. The proper treatment unquestionably is surgical measures, whereby the sinus tract must be carefully dissected out and completely excised to effect a permanent cure.

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CAUSES OF PREVENTABLE BLINDNESS.*

BY. G. I. HOGUE, M. D.,

MILWAUKEE.

In presenting the slides illustrating the various causes of preventable blindness, it is with the hope that I may interest the medical profession to the point where the members present may become sufficiently interested to present the slides shown this evening to their constituents. It is extremely important to educate the laity on this subject and it is the duty of the medical profession to disseminate such knowledge as will prevent or at least minimize blindness of the preventable type. The slides are the property of the Wisconsin Association for the Blind, of which I have the honor to be the Chairman of the Committee for the Prevention of Blindness. These slides with a printed talk will be gladly loaned to any member who will make application after I conclude this demonstration.

Fifty per cent. of the blindness in this country could have been prevented and as result there are 50,000 needlessly blind in our land. Blindness due to heredity numbers some ten thousand in the United States. These children should not have been born. There should be some law to prevent the inter-marriage of people with certain disease of the eyes, for example among albinos.

Ophthalmia neonatorum is the most frequent single cause of preventable blindness. As regards the cause and symptoms, these are too well known to need repetition at this meeting. It is estimated that in one in every two hundred births this disease appears and blindness may be easily prevented by a simple remedy (1% silver nitrate) which is provided by this State and I believe should be used in every case as a prophylactic. Sixty per cent. of the blindness in the Boston School for the Blind could be traced to ophthalmia neonatorum, and thirty-three per cent. in the New York School for the Blind. The cost to the State for the education and maintenance of the needlessly blind is enormous.

All of these persons would have been useful members of society if two minutes of time and two cents had been expended. The cost in New York state is three thousand dollars for the free distribution of silver nitrate and in our own State we have an appropriation for the same amount which is used to provide the Health Officer of each town with 1% solution of silver nitrate. I believe that at least each hospital in every town should have a room to receive cases of ophthalmia neonatorum. It has been a rather difficult proposition to get the consent of hospital authorities for the admission of such cases.

Lues may be transmitted through the mother and bring about blindness even in the third and fourth generation, and I cannot do any better than to quote Helen Keller on this subject. "The problem of prevention should be dealt with frankly * * * The time for hinting at unpleasant truths is past * * * The facts * * * are often revolting. But it is better that our sensibilities should be shocked than that we should be ignorant of facts upon which rest *sight, hearing, intelligence, morals, and the life of the children of men.*

*Let us * * * rend the thick curtain with which society is hiding its eyes from unpleasant but needful truths."*

The question of midwives is a very important one. Approximately forty-eight per cent. of all births in our country are attended by midwives. In Denmark ninety to ninety-five per cent., but there is not the same death rate or unnecessary blindness as here. The trouble is that ours are not trained or supervised. I believe that a correspondence course would do a great deal of good until we could obtain some instruction for them from our medical schools or hospitals. The only school at present is the Bellevue Hospital School which was started in 1911. It has a capacity for fifty pupils and the training lasts six months.

*Read at the First Annual Meeting of the Wisconsin Eye, Ear, Nose and Throat Specialists, Oshkosh, Oct. 8, 1914.

Tuberculosis of the eye may result in chorioiditis or ulcers of the cornea and requires the same treatment as for tuberculosis of the body, plus special treatment for the eye. The common diseases of childhood, especially measles, cause inflammation of the eyes and may result in blindness.

Trachoma is not as frequently seen as in years past on account of the stringent examination of immigrants and on account of the measures taken to do away with the roller towel. However, these cases are seen and should be properly treated and definite instructions given as is done in the New York Trachoma Clinic which has been maintained by the New York Department of Health since 1911.

Accidents frequently cause blindness and many are preventable. Our sane 4th of July has saved thousands of eyes. Golf balls contain an acid which explodes when the ball is opened and the same has caused burns of the eye. The injuries of the eyes among workmen are enormous. The emery wheel should be provided with a hood and shield and also an exhaust pipe, and the workmen should be supplied with goggles to prevent any injury to the eyes. In every shop there is someone who makes it a specialty to remove particles of steel, iron, and emery by means of crude methods and much damage is done by ignorance and uncleanliness. I have found that the men become careless about using goggles and if ("Your Eyes-Safety First") or signs to that effect could be placed in the shops it would help to impress upon the careless individual the necessity of preserving the eyes.

Defective tools have destroyed sight. Sometimes the chip penetrates the eye and is not removed immediately and may even cause sympathetic trouble in the opposite eye. Lime burns not only disfigure the face but frequently destroy the sight. In plasterers and masons especially it is important to instruct these men to use oil instead of water in the first aid treatment. Water gauge glasses on boilers should be provided with guards. Masks of fine brass netting should be used for work in blooming mills.

The excessive use of alcohol and tobacco, usually when the person is addicted to both, may cause blindness by atrophy of the optic nerve. Wood alcohol in as small a measure as a teaspoonful may cause blindness. Varnish is frequently made with wood alcohol and wood alcohol is also found in perfumes, essences, extracts and patent medicines.

Eye strain may give rise to other disorders, for example, nervous breakdown. The eyes vary in endurance, and there is no standard of endurance as regards the individual power. I wish to point out the evils of the five and ten cent store glasses where the individual selects his own glasses.

The proper illumination of the room is most important and the indirect lighting is a better and more evenly distributed light without any glare than any other method that we have found.

A STUDY OF TWO CASES OF AMEBIC DYSENTERY.

BY M. A. McGARTY, M. D.,
LA CROSSE.
(From the service of Drs. Evans and Bannen.)

Dysentery was one of the best known diseases of antiquity. Even before the time of Hippocrates reference to it was made, the earliest being that found in the papyrus of Ebers. Hippocrates, in the year 460 B. C., was the first writer to give a fairly accurate description of the symptomatology, pathology, and sequelae. Woodward (1879) gave a most excellent history of the disease. Shiga of Japan (1879), Flexner (1890), Strong and Musgrave, McDill of Manilla (now of Milwaukee), and Harris of Atlanta, of the present era, have contributed perhaps the most valuable writings, Osler, Tuttle, and Surgeon General Sternberg, of the United States Army, are also among those who have furnished data in our own country. Hirschman has also made close study of the disease in the Southern States.

Dysentery does not respect any country, climate, or race. Ayres very truthfully states that where man is found, there some of its forms appear. During the Civil War, Woodward reported 259,071 cases of acute dysentery and 28,451 of the chronic form in the Federal service alone. Hirsch says that it had a wide distribution over the inhabited earth at all historic times. It is without doubt one of the four great epidemic diseases of the world. In the tropics its ravages have been most deadly, destroying more lives than cholera; and to the armies it has been more destructive than powder and shot, (Osler). A very striking fact relative to this affection is that it involves the cold zones. Epidemics have been reported in Alaska, Sweden, Russia, Greenland, and Iceland, also other of the colder countries. Most cases of dysentery are found during the summer and autumn months.

This is due to several reasons: sudden change in temperature, especially sudden rises, have a most marked effect. It is most prevalent in the warm climates, and as stated above is most deadly in the tropics.

Race itself does not affect this disease. Strange though it may be, the negro race in the South has not seemed to suffer much with reference to it; notwithstanding the baneful consequences of poor hygienic conditions, improper food, over-crowding, poor ventilation, filth, and especially syphilis—a disease most universal among the race, either inherited or acquired.

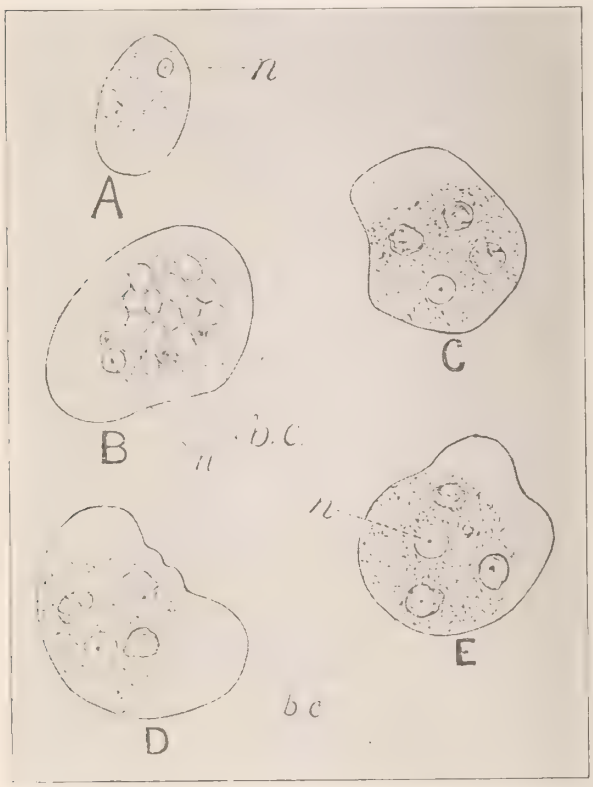
Hirschman says dysentery is much more common among males, due to exposure, which is not at variance with that of other authors. De Buys of New Orleans in the Journal of the American Medical Association, November 21st, 1914, reports seven cases of amebic dysentery in children from eleven months to twelve years. The younger the child the less often is the disease found. This is in accord with our theories of the sources of infection, more particularly water and green vegetables; as the smaller babies have boiled water as a rule, and do not yet have vegetables. The symptoms of amebic dysentery in children do not differ from those in the adult. Where proper sewerage is lacking, we find more of dysentery than in the sections where the hygienic conditions are better. Many cases are found in institutions, such as insane asylums, jails and army camps. Wherever there is over-crowding, a large percentage of dysenteric cases are found. Investigators have tried to associate dysentery with certain topographical conditions, or with conditions of the soil, but have been unable to do so. Epidemics have proven more fatal in the country than in the city. Soil that is badly contaminated with dysenteric excreta is a general source of infection. Czernicki tells about dysentery breaking out in two French squadrons in 1875 that were on the same ground occupied a short time previously by a cavalry regiment, which had been affected with the same disease. Hirschman states that in one ill-drained district of Memphis he treated nine cases of amebic dysentery within a radius of two blocks, and another case was treated that had been infected in the same territory five years before. It is also an interesting fact to note here that two families, in which were four of the patients, purchased vegetables from the same Italian grocer. There is yet another reason why we find more cases in marshy, low-land districts. Here we find the greatest growth of vegetation, which, when conditions are favorable, furnishes a most suitable nidus for the propagation and development of amebae, bacteria, and other micro-organisms.

Certain articles of food are unquestionably carriers of dysentery. All groundling vegetables and fruits, especially those shipped from the tropics, are possible sources of infection. Undoubtedly infection with the amebae has been traceable to eating such vegetables, as lettuce, strawberries, cress, and potatoes. Drinking water is undoubtedly the most common source. Writers have been impressed by the fact that many cases are found among sportsmen, also timbermen who spend much of their time in the woods, and who drink when necessity requires, from surface pools and springs. There are certain rivers in China whose waters are known to cause dysentery. Hirschman has treated one case of amebic dysentery in the person of a physician, who thinks undoubtedly that the infection was obtained from drinking Mississippi River water while on board a river steamer. Thevenol says: "Nothing is so prone to lead to disorganization of the large intestine as infected water." Impure water itself does not produce dysentery, but only when it contains the special micro-organisms. In the above historical sketch all forms of dysentery have been described.

At least three species of amebae occur in the intestines, Entameba coli, Entameba histolytica, and Entameba tetragena. The first is a harmless parasite, found in normal persons; each of the other two may give rise to a form of amebic dysentery. Dysentery in this form is both epidemic and endemic in the tropical countries, especially India, Africa, and the Phillipine Islands. In the United States sporadic cases are met frequently. Osler says that his cases in the Johns Hopkins Hospital were almost exclusively amebic. The microscope only, however, can verify the diagnosis. Hirschman states that many cases of amebiasis have been diagnosed when no history of dysentery or even diarrhea was obtained. He has also operated on two cases of amebic liver abscess, where the most careful inquiry failed to reveal a past or present history of the symptoms of dysentery or diarrhea.

This form of dysentery is caused by the Entameba histolytica or the Ameba dysenteriae. It is a type of protozöon, unicellular, and motile, several times the size of a red blood corpuscle. In structure the organisms have an outer colorless

zone, called the hyaloplasm, and an inner granular zone, the endoplasm. Its nucleus is eccentrically situated, and one or more vacuoles are present. This parasite is phagocytic in character, and may be seen to contain red blood cells, bacilli, and other particles. It is easily mistaken for a large epithelial cell, or paramecium when not in motion. It is ten to fifteen microns in size. The Ameba hystolytica multiplies by segmentation, the nucleus and endoplasm dividing in such manner as to form several embyro cells for the corresponding number



A, immature ameba; B, C, D and E, different forms of mature ameba; n, nucleus; b. c., blood corpuscles.

of new cells. The old cell either dies or enters into the encysted state. After an uncertain period the cell wall bursts, and liberates the new cell. The mother cell, containing the daughter cell, may remain encysted for an indefinite time. In this state it is much smaller than the ameboid form, and is non-pathogenic.

The Ameba coli mitis, which is occasionally found in healthy persons is found in other affections. It is non-phagocytic, twelve to thirty-six microns in size. Propagation is by gemmation or budding; a portion of the cell body being thrown out and then broken off, forming a new individual.

By extensive experimentations W. A. Baetjer, and A. H. Sellards, of the Johns Hopkins Hospital have demonstrated the first three of Koch's laws, namely, the transmission of amebic dysentery from man to animal, the recovery of the ameba, and the inoculating successfully of a series of animals, recovering the ameba in each case. The method used most successfully has been direct inoculation, or implantation of the amebae into the cecum of the animal, as compared with the method of rectal implantation, or feeding. These same experiments have been successfully carried out at other clinics, and although Veeder, Rogers, Darling, Schaudinn, Viereck, Hartman, and other observers have attempted to differentiate the Entameba histolytica from the Entameba tetragena, the general result would seem to indicate that sufficient data for a differential classification has not been established.

My apology for presenting this paper, treating of a tropical disease, in this latitude, has been the study of two cases which came under our care, and which are still under observation at the St. Francis' Hospital.

The following case reports will be helpful:

Case 1. F. J., age 37, white, Norwegian extraction, occupation, painter. The family history is uneventful. The patient has always been well, without illness of any consequence, until 14 years ago, (1900,) when present trouble began. At that time a soldier in the Phillipine Islands, he had an attack of acute dysentery, lasting three days followed by severe pain in abdomen, tenesmus, frequent stools, 15 to 20 daily, containing blood and mucus, a condition which has since been persistent. At times discharge would be bloody, and at others simply diarrheal. Throughout the fourteen years, he has had no formed stools. He suffered a loss of strength and weight during his illness, the loss of weight being 50 pounds.

The patient entered St. Francis' Hospital Nov. 27, 1914, temperature 99° F., weight 137 pounds. He looked much older than his years, and when walking the body was bent forward due to pain in abdomen.

Physical examination revealed a tall, slim, emaciated man, skin, dry and muddy, sallow in color. Tongue coated, teeth very poor, marked pyorrhea. Lungs and heart normal, except for a slight systolic murmur, heard best at apex. Blood pressure, systolic 138, diastolic 86, pulse pressure 52. Slight

tenderness on pressure over cecum, hepatic and sigmoid flexures; pronounced melancholia. No enlargement of liver, or spleen, or pain on pressure over the gall bladder. Urine normal. Blood examination showed, red cells 3,500,000, hemoglobin 50%. Polynuclears 66%, large mononuclears 13%, small lympocytes 18%, transitionals 0, eosinophiles 3%, basophiles 1%. Poikilocytosis. Blood platelets normal.

November 28, patient was given Magnes. Sulph. dr. 3. After the first bowel movement a rubber rectal tube was inserted, and flakes of mucus and blood passed into warm water. Microscopic examination showed many amebae, which on the warm stage were found to be actively motile. November 29 emetin hydrochloride, gr. 1, was given hypodermically. November 30, Amebae histolytica were again found. December 1, emetin, gr. 1½, was given in three injections. December 2, number of stools decreased to about one-half. December 3, emetin, gr. 1, was given in two injections. Proctoscopy revealed a considerable quantity of sanguino-purulent mucus in the rectum, and the rectal mucosa was covered with same. Small punctate ulcers were seen on the rectal walls. Microscopic examination revealed the Entameba coli in large numbers. Entameba histolytica were not found. December 5th he was given emetin gr. 1, and thereafter 1 gr. every third day for three doses. December 21st was given emetin gr. II, repeated December 23rd. December 25th, after over-eating, showed symptoms of recurrence of diarrhea, which immediately disappeared following proper diet. Miscroscopic examination of the stools failed to show ameba. Since December 10th, patient has been up and about the hospital. At present has only two or three bowel movements in 24 hours. He gained fifteen pounds in weight, color of skin markedly improved. Blood count January 2nd, 1915, hemoglobin 55%, red blood cells 3,984,000. January 4th, no amebae were found. Rectal mucosa normal except for two small ulcers about 2cm. in diameter.

Case 2. R. M., Missionary in the South Sea Islands, age 40, white, German extraction. Previous health good up to 25 years of age. During 1898 contracted malaria. It is interesting to note that this patient was a sufferer from "Frambesia Tropica" or "Yaws", caused by the Spirocheta pertenuis. In June, 1900, his present trouble began with frequent stools, twelve to fifteen a day, containing slime and much blood, and accompanied with pain and straining. The diarrhea is not constant, disappearing occasionally for periods of three or four days, only to return again. Continual pain in abdomen. Loss of weight not marked. Patient has confined himself to a very strict diet since onset of present trouble.

He was admitted to the hospital Dec. 14th, 1914, with a temperature of 98.6°, pulse 72, respirations 18; nothing abnormal found in the physical examination other than marked tenderness over the gall bladder. Patient states that during the past year he has felt pain in this area. No enlargement of liver. A scar seen on abdomen where appendix had been removed. Urine was found normal. Blood count polynuclears 73%, large mononuclears 6%, small lympocytes 14%, transitionals 3%, eosinophiles 3%, basophiles 0. Red blood count 4,600,000. Hemoglobin 75%, no poikylocytosis or stippling. Platelets normal.

On the morning of December 15th, a rectal tube was passed, after Magnes. Sulph. dr. 2, had been given, Ameba histolytica were found. He was given emetin gr. ½, hypodermically, was kept in bed and put on liquid diet. In the next 24 hours he had seven stools, dark brown in color and containing mucus and blood. He complained of pain in abdomen and strained much at stool. Dec. 17th was given emetin gr. II by needle, with no nausea following. He continued to complain of pain in abdomen, but straining at stool was not so marked. Dec. 19th emetin gr. 1, hypodermically was again administered. During the next 24 hours he had only two stools with no blood or mucus. Dec. 19th a tube was passed, and no amebae were found. By means of a proctoscope ulcers in rectum were curetted and amebae histolytica found, though not so many. Another hypodermic of emetin gr. II was given. There was only one stool in the 24 hours following, and the patient was fairly comfortable. Dec. 23rd he was again given emetin gr. 1, as before, there was only one stool in the 24 hours, semi-formed, free from blood and mucus. On the morning of Dec. 26th emetin gr. 1, was given, repeated on Dec. 29th and Jan. 1st. On Jan. 2nd the passing of the tube showed no amebae. Jan. 4th gr. II, was given. At present patient is free from diarrhea, and has one stool in 24 hours. Neither patient experienced any nausea or ill-effects from the drug throughout the treatment.

In 1867, Pelletier separated from ipecacuanha its emetic principal, which he named emetin. It was not until 1894-95 however, that Paul and

Crownley isolated its two crystalline alkaloids, emetine and cephaeline. The development of emetin therapy is in the main, subsequent to that date. Three epoch-making discoveries regarding emetin have been made within the last two or three years. For years many have known its value, but it remained for Leonard Rogers of Calcutta to show, in 1912, that its soluble salt, emetin hydrochloride, is a specific for tropical dysentery. He discovered that in a few days, as a rule, after several hypodermic injections of this alkaloidal salt, a patient who has suffered for months, possibly years, may be completely cured. His results have been verified by such eminent clinicians as Dopter in France, Lukes, and Low in England, Allen, Friedenwald, Zobel, and Veeder and many others in America as well as by numerous physicians elsewhere in the world. In an article contributed by Veeder to The Journal of the American Medical Association, Feb. 14th, 1914, is given a splendid resume of the results obtained with emetin. Out of 110 cases collected from the literature, and treated by this method, as reported by 22 observers, 99 of the patients were clinically cured, while 11 died. Of the eleven who died, every one was beyond help when the treatment was instituted. In sixteen cases of amebic hepatitis treated with emetin, as reported by nine observers, every one was cured. As to the permanency of the cures effected, it is too early, of course, to say.

The percentage of relapses thus far reported by different clinicians varies from 20 to 25%. Friedenwald and Rosenthal say that patients cannot be pronounced cured until a considerable period of time has elapsed without reappearance of the symptoms, for encysted amebae may be set free and produce a recurrence. It is therefore important that patients treated for amebic dysentery with emetin should be kept under observation for some time and at the first sign of recurrence should again be given treatment. Veeder states that when the symptoms of dysentery do recur, they are promptly relieved by the repetition of the emetin treatment. In order to prevent the possibility of re-infection he recommends the use of repeated high colon irrigations with quinine or silver nitrate. This is of special importance in view of the fact that the disease is probably disseminated by carriers. In the British Medical Journal, June, 1913, Sir Charles Pardy Lukes says: "If you have a case which you suspect to be one of amebic dysentery, but which does not react to emetin within three days, you may be sure that your diagnosis is wrong, and you need waste no further time in treating it as such."

The dosage of emetin hydrochloride used by different physicians varies greatly. As high as 4 grains daily were given by Allan in two cases reported in the Journal of the American Medical Association, March 1st, 1913. Veeder recommends the subcutaneous injection of one-third grain thrice daily for a period of about ten days. However, the consensus of opinion is that from 1 to 1½ grains of emetin daily are sufficient, and it may be administered in two or three doses. Llewellyn Phillips in the British Medical Journal, Dec. 19th, 1914, suggests the administration of emetin hypodermically for at least ten days or longer if the state of the patient demands it, followed by the oral administration of the drug. This is to be followed by subsequent courses at increasing intervals, as is the practice with syphilis or malaria, and in the intervals courses of calomel combined with thymol: if this is not sufficient some other intestinal parasiticide should be used. No man should be considered cured until after several examinations and no cysts of Entameba histolytica are to be found in the feces. Further, all carriers, even though they may never have had dysenteric or other symptoms are to be considered as cases of amebiasis, and treated as such.

Salvarsan and neo-salvarsan have been employed in the treatment of dysentery and excellent results have been obtained; arsenic has been detected in the stools after its use, but the experimenters have unfortunately not recorded if the cysts were destroyed. Some also administer at the same time salines to aid in the expulsion of the parasites, (100 gr. of ipecacuanha is equal to 1½ gr. of emetin.)

Within the last few months—in June, 1914—Barret and Smith of Philadelphia, and Middleton of the University of Wisconsin, have shown the power of emetin to destroy the amebae causing pyorrhea alveolaris. We have found the Entameba buccalis, in four cases of persistent pyorrhea alveolaris. These cases have been treated locally with emetin hydrochloride, each case showing such marked improvement with absence of amebae that they have been pronounced cured by competent doctors of dentistry.

I wish to acknowledge with thanks valuable assistance rendered by Drs. Evans, Bannen, and Dolan in the preparation of this paper.

NOTE—Case I, was allowed to go to work at his trade

in the hospital, and developed acute dilatation of the heart, swollen feet, and dyspnea.

This was probably due to anemia, over-eating, and active work. After rest in bed cardiac dullness decreased, and swelling of feet has disappeared.

BOOK REVIEWS

THE MEDICAL HISTORY OF MILWAUKEE, 1834-1914, by Dr. Louis Frederick Frank, Octavo, 272 pages, illustrated with Portraits, Photographs, and Original Charts. Germania Publishing Co., Milwaukee, 1915.

Dr. Frank has earned the gratitude of the medical profession, not of Milwaukee alone, but of the whole state, by the publication of his Medical History of Milwaukee, 1834-1914, which is issuing from the press this month.

This laborious task, to which Dr. Frank has devoted several years of untiring work, is now happily completed, and the result is a handsome volume of 272 pages "dedicated to the Medical Profession of Milwaukee."

The first 105 pages are devoted to a chronological study of the medical profession of Milwaukee from 1834 to 1914, under each year being given the biographies of the physicians who entered upon practice here during that period. The biographies are of necessity brief, but there is a raciness and picturesqueness about them which makes the personalities of our predecessors stand out as vividly and humanly as though they were all our personal friends, or enemies, as the case may be. This section of the work is made additionally interesting by the insertion of 120 portraits, many of them going back to the very beginnings of Milwaukee.

Following this section are chapters on Medical Societies, Medical Journalism, Medical Library, Hospitals, Wisconsin Anti-Tuberculosis Association, Epidemics of Small-Pox, Cholera and Typhus Fever, Health Office, Mortality Statistics, Medical Inspection, Dental Inspection, Child Welfare, Wisconsin Training School for Nurses, Directory for Nurses, Visiting Nurse Association, Medical Colleges, Military Records of Milwaukee Physicians, Directory of Milwaukee Physicians 1834-1914.

The chapter on Hospitals is well illustrated, and that on Mortality Statistics is provided with numerous interesting tables and charts which add greatly to its value.

Dr. Frank is to be congratulated upon the completion of his labors, and upon the form in which he has presented them to his readers. In paper, type, illustrations, and binding, the volume is thoroughly satisfactory.

PRACTICAL MEDICINE SERIES. Vol. 7, Obstetrics, edited by Joseph B. De Lee, A. M., M. D., and Herbert M. Stowe, M. D., Chicago, pp. 223. Price $1.35.

Volume 8, Materia Medica and Therapeutics. Preventive Medicine, Climatology, edited by George F. Butler, Ph. G., A. M., M. D., Henry B. Favill, A. B., M. D., Norman Bridge, A. M., M. D., pp. 349. Price $1.50.

Volume 10, Nervous and Mental Diseases, edited by Hugh T. Patrick, M. D., and Peter Bassoe, M. D., pp. 221. Price $1.35.

These volumes of a handy size and attractively arranged for the student and busy practitioner, are replete with suggestions of the best practice of the day. The material of the volumes consists almost entirely of abstracts of important recent articles, in each case giving reference to the original article. The ground is covered with great thoroughness, so that these books present in condensed form what has been done during the year that is really good.

By means of this excellent series of books it is possible for the general practitioner to keep in touch with medical progress in all its directions, an undertaking which the growth of medical literature has rendered an impossibility without such an aid. The judicious editorship of the entire series and of the individual volumes eliminates most of the superficial and unsound in current medical literature and presents the articles of real value in a form full enough for satisfactory use.

For the busy general practitioner, who desires to keep moving with the current of progress this series will prove most helpful.

TEXT-BOOK ON THE DISEASES OF THE EAR, THE AIR PASSAGES AND THE MOUTH. Denker, Alfred, Prof., Halle a. S., and Brünings, Wilhelm, Professor, Jenna; 2nd and 3rd editions. 643 pp. with 308 illustrations, in the text, mostly in several colors. Jena: Gustav Fischer. 1915. 16 Mark, $4.00. The great success we predicted for this unusually good book in our review of the first edition, to which we beg to refer, has been fully attested by the fact that it was very soon sold out and required 1½ years after its appearance, a new edition of twice the number of copies. The oto-rhinological part has been supplemented by the results of the researches within the last 2 years and the addition of a large series of splendid colored pictures of the drum head, reproduced from the atlas by Passow. The section on the pharynx and larynx has been remodelled by giving the clinical and anatomo-pathological discourse greater prominence in comparison with that on the technic of examination and treatment than in the first edition. The external appearance is very handsome and the price very moderate. C. ZIMMERMANN.

TEXT-BOOK OF OPHTHALMOLOGY. Axenfeld, Theodor, Prof., Freiburg 1. Br., in conjunction with the late Prof. L. Bach, Marburg; and Professors A. Bielschowsky, Marburg; A. Elschnig, Prag; R. Greef, Berlin; L. Heine, Kiel; Hertel, Strassburg; i. E., E. von Hippel, Halle; E. Krueckmann, Berlin; Oeller, Erlangen; A. Peters, Rostock; Stock Jena. Fourth edition. 800 pp., with 12 lithographic plates, 3 in color print, and 584, most colored, illustrations in the text. Jena. Gustav Fischer, 1915. 15.50 m., $3.88. Under the able management of the celebrated editor, and by the mutual critics of the collaborators the text has been thoroughly revised, remodeled, and supplemented in accordance with the process of ophthalmology. Under functional tests the exact regulations for the railroads, armies of the different nations, navy, merchant marine, for service in the tropics, and automobile drivers have been added. The illustrations have also been improved and augmented by 30, but by condensing the text on other places and the elimination of unnecessary pictures the volume has been enlarged by not more than 40 pages.

C. ZIMMERMANN.

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EDITORIALS

THE MEETING OF THE WISCONSIN SURGICAL ASSOCIATION.

The attention of our readers is called to the announcement on another page of the approaching meeting of the Wisconsin Surgical Association. This meeting will be held in Milwaukee May 5, 6, and 7. During the day clinics will be conducted at the various hospitals, and the evenings will be devoted to the reading and discussion of scientific papers, except the evening of May 6, which will be given up to a social gathering.

The program of the meeting will be published in full in the next number of the Journal.

THE SAMUEL D. GROSS PRIZE COMES TO WISCONSIN.

It will be a source of much gratification to all of our readers to learn that the Samuel D. Gross Prize of the Philadelphia Academy of Surgery has just been awarded to Dr. John L. Yates of Milwaukee for his essay entitled: "Surgery in the Treatment of Hodgkin's Disease."

The "Gross Prize" which amounts to $1,500 is "awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded on original investigations." Not many of us here in Wisconsin, who may have been familiar with the work which is being carried on by Dr. Yates and his associates, have been aware of the fact that this study of Hodgkin's Disease is looked upon by some of the leaders of the medical profession in this country as one of the most important pieces of research work which is going on in America today.

The awarding of the Gross Prize to Dr. Yates will help us to realize the interest which this work is creating outside of Wisconsin.

SHOULD THE STATE MAKE WASSERMANN EXAMINATIONS AT A NOMINAL FEE?

An interesting proposal is made in the communication from Dr. W. F. Lorenz, Director of the Wisconsin Psychiatric Institute, published in the February Journal under the title given above.

The question is presented to the medical profession and an answer is desired. No one man can answer for the whole profession, so a large number of replies giving the personal views of the writers would be a great help in arriving at a conclusion. If there is a general or even a considerable demand for services of this character it would be well worth while to undertake the work. If the medical profession would make use of the facilities offered it would be worth while to give the plan a trial.

If there are any objections to the plan in the minds of our readers now is the time to make them known.

Let us hear expressions of opinion from all parts of the state so that some idea may be gained as to the amount of use which would be made of facilities of this sort.

There can be no question about the usefulness of such work; the only question is how much use would be made of it.

THE MEDICAL HISTORY OF MILWAUKEE.

It is hard for the average man as he goes about his daily tasks to realize that he is helping to make history. But in The Medical History of Milwaukee by Dr. Louis F. Frank which is just off the press and which is reviewed on another page we see the transformation of commonplace, prosaic, daily life into more remote and more romantic history taking place under our very eyes. All the stages are laid before us from the biographies of our friends of yesterday to those of the pioneers in medicine whose first impressions of Wisconsin, and anything but favorable they were, are placed before us in their own pungent language.

Dr. Oliver P. Wolcott's description of his visit to Milwaukee in 1843 begins: "Such a miserable place for settlement I have never seen before. It was one unbroken series of sand banks, frog ponds, clay hills and river marshes with the unpretentious habitations of probably 5,000 people scattered around in a desultory sort of a way. In three days I made the acquaintance of every man in the town and I made it a point to abuse everybody I met for locating in such an ill-favored and unpromising stretch of waste. It took me fifteen days to make the trip from my home in New York State."

Dr. Frank has collected a vast amount of information and has arranged it in such a way that it makes extremely interesting reading. By untiring energy he has also gathered a very large collection of illustrations which will help the reader to feel even better acquainted with the medical men of an earlier day.

This is an extremely valuable piece of work and Dr. Frank has put the medical profession under a great debt of gratitude for this labor which has been one of love, pure and simple.

THE TEACHING OF SEX HYGIENE.

In the interesting discussion which follows Dr. McMahon's paper on Sex Hygiene in this number of the Journal one of the speakers gently reproves the medical profession for not having taken the lead more definitely in insisting upon more general instruction in this puzzling subject. Now it seems to the writer that this is rather unfair. It may be that some members of the medical profession are better fitted to give instruction of this character than is the average teacher or clergyman or settlement worker. Physicians have usually been found willing to make the attempt when they have been asked to do so. But that is far from saying that physicians should "rush in where angels fear to tread." There is no reason in the world why physicians should demand the right to lecture to school children on this exceedingly difficult subject.

If instruction is needed the parents and the school authorities may combine to ask the medical profession to do its best in the matter, but that is very different from our claiming that it is our right or our duty.

It seems to the writer that the position taken by Dr. W. S. Hall, of the Northwestern University Medical School, is a very sane one and that if instruction in sex hygiene is to be given it should be given to the parents and should then be imparted to the child by the parents in the quiet and isolation of its own home.

THE EUGENIC LAW.

Now that the question of repealing or amending the Eugenic Marriage Law is under consideration in the legislature there are certain phases of the subject which it will be well for the members of the medical profession to bear in mind.

In the first place the present law was passed without anything even remotely resembling consultation with the medical profession. Probably ninety-eight per cent. of the physicians in Wisconsin had never heard of the bill until it had been passed and was about to go into effect. No doubt some individual physicians were consulted about it before or during its passage but their advice may not have been heeded or it may not have been good. Certain it is that the law as it stands upon the statute books today is thoroughly unsatisfactory and unworkable from the standpoint of the practitioner of medicine.

In the next place it is important to have the public understand that the medical profession is not *demanding* any Eugenic Marriage Law. But if there is to be such a law we are asking most emphatically that it shall be put in such a form that the general practitioner, who will be called upon to do most of the work, may be able to make the examinations and to sign the certificates without perjuring himself. This he can not do under the present law.

The members of the medical profession will be found to be public-spirited citizens, taken as a whole, and they can be counted upon to do all that

lies in their power to diminish the prevalence of the venereal diseases, but impossibilities must not be expected and ought not to be asked of them.

It is possible to correct the glaring faults of the present law by minor changes which would not sacrifice any of the important features. With these corrections made the measure could then be given a longer trial and its possibilities for good or for evil could be determined much more definitely than can be done at the present time.

The change in the wording of the certificate which is proposed in the form of bill suggested by the Committee on Public Policy and Legislation and printed in the February Journal would do away with the conscientious objections of most physicians and would permit the more thorough trying-out of the merits of the law.

THYROID DEFICIENCY.

Writing on the subject of thyroid deficiency in the Medical Record Hertoghe of Antwerp, makes a plea for the more general recognition of the condition which he described in 1899 as "mild myxedema" or "benignant chronic hpyothyroidism."

Hertoghe emphasizes the facts that infiltration is the constant lesion of thyroid deficiency and that thyroid weakness is not synonymous with cretinism. Incomplete forms may go very well with a fairly active and busy life, and some of these patients are very intelligent.

The symptoms of thyroid deficiency will vary with the tissue involved in the infiltration. When the muscles are affected the cell loaded with fat is increased in size so that its contraction is delayed in onset and slow in execution. Muscular action then becomes painful, accompanied by stiffness and dread of movement. The connective tissue sheath which supports the contractile elements and connects the muscles with the tendons, aponeuroses, and articular ligaments is equally infiltrated, and this adds to the difficulty of movement. This applies alike to non-striped and voluntary muscle. This muscular infiltration shows itself subjectively by rheumatoid pains.

In involvement of the nervous system, the nerve cell whatever may be the degree of myxedematous cachexia, is never destroyed as in a hemorrhagic focus or embolic necrosis. Its nutrition and excretion are simply hindered. It is infiltrated and at the same time compressed by the infiltration of its supporting connecting tissues. The transmission of motor, sensory, and voluntary impulses is thereby delayed but not abolished, and the reflexes are sluggish but present.

The discomfort of the nerves shows itself by neuralgias and even by shooting pains of a neuritic character; the distinction between these two kinds of pain being well known to the patient. Cardiac pain is also present with radiations into the brachial plexus simulating attacks of agina.

The central nervous system exhibits early evidence of infiltration, however slight it may be. In well-marked myxedema, vertigo, dizziness, noises in the ears, headaches, migraine, loss of memory, mental confusion, depression, melancholia, loss of consciousness, loss of balancing power, sudden falls, somnolence, attacks of coma, which may be confused with the serous apoplexy of Bright, with all the more probability that there is usually some albuminuria.

In mild myxedema the list is not so formidable. One should remember the morning headaches and tendency to migraine, vertigo, and noises in the ears.

Even the bone does not escape the consequences of thyroid defect. Every surgeon knows that in certain persons fractures unite imperfectly or not at all, and thyroid extract is given to avoid complication. If one carefully examines such patients, those at least who benefit by it, there will always be found some more symptoms of thyroid deficiency.

Cartilaginous tissue also gives clear evidence of this specific cellular infiltration. On moving the joints which are stiff and painful the application of the hand detects a peculiar sensation resembling the crackling of crushed snow which is almost pathognomonic.

The secretion of sweat may be greatly diminished or completely abolished and the scanty intestinal secretion, together with the muscular weakness of the intestinal walls will usually cause obstinate constipation.

The insufficiently nourished epidermis undergoes early desquamation, the hair falls permaturely, or in milder cases the hair is poor, brittle, and becomes grey at an early period, while the beard may be thin and straggling, and the eye-brows may be lost. The nails are striated and brittle and may split readily. The whole skin is thickened and infiltrated and easily attacked by such affections as eczema, psoriasis, and alopecia.

The mucous membranes of the mouth, lips, tongue, nose, pharynx, larynx, ear, esophagus, and vagina may be infiltrated, sometimes even to an extreme degree.

The most constant symptom of thyroid inadequacy is a lowering of the body temperature with shivering, sensations of cold water being thrown on the back, or habitual chilliness showing itself by constant coldness of the feet.

The dyspnea presented by some patients suffering from severe myxedema may surpass all description. They can with difficulty climb a short flight of stairs, even with a rest by the way; they arrive in the consulting room absolutely breathless and supporting themselves by the furniture, indicating by signs their inability to speak till they have recovered breath.

In mild cases the oppression is less marked. It may be intermittent and presented only on the occasion of unusual exertion, corresponding to an increased demand on the thyroid gland which is weak already. The condition is then readily mistaken for an attack of asthma, and many so-called asthmatics are certainly suffering from thyroid defect.

Hertoghe states that absolute cretins never come to puberty. In mild forms of thyroid insufficiency the uterus remains infantile and small; menstruation begins late in life. Sometimes the posterior wall of the womb does not grow as quickly as the anterior, and therefrom comes retroflexion. This is by no means a rare condition in very young girls. Profuse menstrual bleeding is often seen in such cases and is atttributed to retroflexion. As a matter of fact, the excessive bleeding is caused by the infiltration of the uterine mucous lining, by the defective contractility of uterine muscular cells and by the hemophilic condition of the blood. In thyroid defect hemophilia is quite a classic symptom. Profuse oozing may be brought on by a mere scratch.

An interesting symptom presented in some cases of marked thyroid deficiency in the special character of the voice and speech. The voice is deep, rough, and croaking, with an indescribable quality which when once heard can never be forgotten. This symptom is caused by the infiltration of the vocal cords and the pharyngeal mucous membranes and is present in a lesser degree in the milder forms of hypothyroidism.

After narrating the histories of a considerable number of cases illustrating the various types of mild myxedema Hertoghe sums up by saying:

When you encounter the association of one or more of the following symptoms: Trophic changes in hair, eyebrows, eyelashes, teeth, or gums; an habitual chilliness, biliary disturbances with lithiasis, dsypnea with asthmatic attacks; menorrhagia, recurring abortion, hemophilia, melancholia, depression, weariness of life, migraine, vertigo, sudden loss of consciousness, noises in the ears, somnolence, rheumatoid changes in the muscles, ligaments, or aponeuroses, nocturnal incontinence of urine, pollakiuria, loss of appetite and obstinate constipation,—think of a possible deficiency of the thyroid secretion.

Hertoghe is far from claiming that these symptoms are always due to thyroid insufficiency, but he urges upon the medical profession a more frequent remembrance of this defect as a possible cause to be given due consideration.

WISCONSIN SURGICAL ASSOCIATION.

The next meeting of the Wisconsin Surgical Association will be held at Milwaukee on May 5, 6 and 7, 1915.

During these three days clinics will be conducted at the various hospitals in the city of Milwaukee, and the County Hospital, Wauwatosa. These hospitals supply an abundance of material as evidenced by the success of the clinical session at the last meeting. The evenings will be devoted to the reading of scientific papers. On the evening of May 6th, some form of social entertainment will be provided by the Committee of Arrangements. The meeting promises much of interest for all interested in the progress of surgery in Wisconsin.

Members of the State Medical Society are cordially invited to attend this clinical session.

A preliminary program will be published in this journal in the near future.

DANIEL HOPKINSON, *Secretary.*

Applications for membership in this society may be obtained from the secretary, Dr. Daniel Hopkinson, 1008 Third Street, Milwaukee.

RESOLUTIONS ON THE DEATH OF DR. F. W. A. BROWN.

At a special meeting of the Oshkosh Medical Club held on February 20th, 1915, the following

resolutions on the death of Dr. F. W. A. Brown were passed:

Whereas, The all-wise Creator has seen fit to remove from our midst Dr. Fred W. A. Brown, for many years an esteemed member of the Oshkosh Medical fraternity, therefore be it

Resolved, That by his death our Club has lost an esteemed and loyal member, the community an upright and respected citizen, and his patients a faithful and devoted friend, and be it further

Resolved, That to his family we tender our deepest sympathy in this, their hour of great sorrow and also be it

Resolved, That these resolutions be spread upon the minutes of this Club, and published in the Wisconsin Medical Journal and The Daily Northwestern and a copy of these resolutions be sent to the family of the deceased.

(Signed) JOHN SCHNEIDER, M. D.
B. C. GUDDEN, M. D.
H. E. JOHNSTON, M. D.
Committee.

WILBUR N. LINN, M. D.,
Secretary.

NEWS ITEMS AND PERSONALS

CONFERENCE OF CHARITIES TO DISCUSS MEDICAL TOPICS.

Announcement has been made from the headquarters' office of the National Conference of Charities and Correction of the preliminary program for its forty-second annual meeting at Baltimore, Maryland, May 12th to 19th. The conference will meet under the presidency of Mrs. John M. Glenn of New York, the second woman president it has ever had.

The program contains the names of over fifty leading charity workers and penologists, and it is anticipated the unprecedented social situation of the present year will result in a conference of unique values. The program on "The Family and the Community" will result in considerable discussion of methods of treating individual cases of poverty, as, for example, in a study of "The Psychology of Co-operation." Prof. Henry R. Seager of Columbia University will give an address on the "Causes and Remedies of Unemployment."

The program of "Health" will be under the chairmanship of Dr. Richard C. Cabot, of Boston. It will include a series of discussions on the social responsibility of the hospital and practical methods of social work in connection with hospitals, the chief speaker being Dr. William H. Welch of Johns Hopkins Hospital, Baltimore. Other subjects will be: "A Pay Clinic for Persons of Moderate Means," "The Distinction Between 'Intensive Cases' and 'Short Service Cases' in Hospital Social Work," and "Social Education of the Physician," the latter subject being treated by Dr. Charles P. Emerson, Dean of the Indiana University Medical School.

In previous years the National Conference has discussed the extent of scientific knowledge of the question of prostitution and the value of current methods of popular education. This year, under the chairmanship of Mrs. Martha P. Falconer, superintendent of the State School for Girls at Darling, Pa., the question will be asked, "How shall the evil be suppressed?" The speakers on this subject include Dr. Katherine Bement Davis, commissioner of corrections of the City of New York, and Miss Maude E. Miner, secretary of the Probation and Protective Association of that city.

The discussion of state care of the insane, feeble-minded and epileptic will occur under the chairmanship of Dr. Walter E. Fernald, superintendent of the Massachusetts School for Feeble-minded at Waverly. It will include answers to the question "What is Practicable in the Way of Prevention of Mental Defect and Disease?" and a discussion of "Available Fields for Research and Prevention in Mental Defects." The speakers in this section include Dr. Adolf Meyer of Baltimore, Dr. C. B. Davenport, Cold Spring Harbor, N. Y., Dr. H. H. Goddard of Vineland, N. J., Dr. Martin W. Barr, superintendent of the Pennsylvania School for the Feeble-minded at Elwyn, and Dr. Walter S. Cornell of Philadelphia.

Other divisions of the program are upon children, corrections, education for social work, the family and the community, public and private charities, and social legislation.

SPECIAL MAIL COURSE FOR HEALTH OFFICERS.

A correspondence course for health officers is announced by the University of Wisconsin Extension division. This course has been prepared to meet the need and desire frequently expressed for better preparation for local health administration. It is designed for health officers not able to pursue or warranted in taking residence work, as well as

for others desiring to take up the study of health administration.

But few communities are prepared to employ on full time thoroughly trained sanitarians, according to the bulletin announcing the courses. Yet there is not a single community, that does not need expert sanitary work in some direction. The topics treated in this course will cover laws and regulations, vital statistics and health surveys, transmission of disease, nuisances, and administration of a health department. The administration part of the course will treat of inspection work, visiting nursing, medical inspection of school children, quarantining, isolation, and disinfection, use of laboratory, registration and other subjects.

Dr. G. L. Bellis, for the past year physician in charge of the Cook County Tuberculosis Hospital at Oak Forest, Ill., and for two years assistant of the State Sanatorium for Tuberculosis at Wales, has been appointed superintendent of the new Milwaukee County Sanatorium for Tuberculosis, which is nearing completion, and which will have an ultimate capacity of 500 beds. Dr. Bellis takes charge April 1st.

Dr. J. R. Breakey, Alma Center, has removed to Ypsilanti, Mich.

Dr. J. H. Furstman, La Crosse, has been appointed a member of the State Board of Health. He succeeds Dr. C. H. Stoddard, Milwaukee.

Dr. L. G. Armstrong, Boscobel, celebrated the 81st anniversary of his birth and his 58th anniversary as a practicing physician on February 18th.

Dr. G. H. Fellmann, Milwaukee, has been appointed to succeed Dr. D. J. Jurss, as physician to the Home for Dependent Children, Wauwatosa.

Dr. James Oettiker, Platteville, has left for a western trip. He will visit New Mexico and California. He expects to return about April 15th.

Dr. W. W. Reed, Jefferson, celebrated his 90th birthday on February 10th.

Dr. E. T. Martin, Chicago, has located at Two Rivers.

The partnership existing between Drs. W. W. Reed and G. L. Smith, Jefferson, for the past thirty-six years, has been dissolved by mutual consent.

Dr. G. F. Goggins, Milwaukee, has removed to Lodi.

Drs. William J. and Charles H. Mayo, of Rochester, propose to establish a $1,000,000 foundation for medical research, which is to be placed under certain restrictions, in the hands of the University of Minnesota board of regents.

The new Municipal Hospital at Menomonie was opened on March 1st. The hospital has room for twenty-seven patients.

Five Wisconsin cities have open air schools and another is about to be established at Madison. Kenosha, Racine, Milwaukee, each have one open air school, Green Bay has two, and Oshkosh has provided for such a school in a building now in course of construction. The first open air school in the state was provided by the Wisconsin Anti-Tuberculosis Association as a prize to Kenosha in 1910, in the Red Cross Christmas Seal sale.

The first issue of the bulletin of the Milwaukee Health Department was issued on March 1st. The pamphlet was formerly known as the Healthologist An attack on certain patent medicines and foods is a feature of the new publication.

A bill introduced in the Legislature by Assemblyman Poole of Ozaukee County is designed to prohibit any city, from requiring that milk sold within its limits shall be from tuberculin tested cows.

MARRIAGES

Dr. O. F. Goetsch and Miss Adela Lehmann both of Hustiford, on February 12th.

Dr. Henry Bush Beeson, Hannibal and Miss Elizabeth Urquhart, Medford, February 10, 1915.

DEATHS

Dr. Harry Paul Chambers, for sixteen years located at Florence, died at his home in that city on February 10, aged 48 years. He was a graduate of the College of Physicians and Surgeons, Baltimore in 1891. He was chief surgeon for the Florence Iron Company and the Reserve Mining Co. He was a member of Florence County Medical and the State Societies.

Dr. James Richmond, Loyal, died suddenly of heart failure at his home on February 20th, aged 57 years. He graduated from the University of Illinois, College of Medicine in 1887. Dr. Richmond had practiced at Loyal for the past twenty years.

Dr. J. J. Blumer for years a practicing physician at New Glarus, but who removed to Milwaukee four years ago, died at his home on February 10th, following an illness of several months duration of cancer of the stomach and bowels. Dr. Blumer was 72 years of age. He was a graduate of the University of Pennsylvania, Department of Medicine, 1868.

Dr. F. W. A. Brown, Oshkosh, was found dead in his office February 20, 1915. Death was due to heart failure. Dr. Brown was born in Elizabethtown, Ontario, Canada, July 4, 1862. Following a preliminary education he entered the Pottsdam, N. Y., normal school, and attended the Faculty of Arts, Queen's University, Kingston, Ontario, the College of Physicians of Ontario and McGill University, Montreal. He was graduated from the latter institution in 1892. He commenced practice at Syracuse, N. Y. Later he practiced at West Stewartstown, N. H., and in the hospitals at Montreal. Dr. Brown came to Oshkosh in June, 1893, and commenced practice. In 1896 he was appointed assistant at the Northern Hospital for the Insane at Winnebago, under the late Dr. W. A. Gordon, and remained there for some time before again returning to private practice. He was a member of the Oshkosh Medical Club, the Winnebago County Medical Society, the Fox River Valley Medical Society and the State Medical Society.

Dr. George E. Keenan, Madison, died on March 5th, aged 54 years, after an eight weeks' illness of pneumonia. Dr. Keenan was a native of Dane County, being born in the town of Dunn. He studied at the University of Wisconsin being a member of the class of 1882. He entered Rush Medical College and graduated in 1883. After graduation he studied abroad. During the second term of President Cleveland, Dr. Keenan served as American consul general at Bremen. Dr. Keenan at one time practiced at Stoughton, but for the last twenty-five years was located at Madison, with the exception of four years spent in Europe. He was a member of the American Medical Association, the American College of Surgeons, Dane County and the State Medical Societies.

BOOK REVIEWS

The Etiology of Trachoma. Axenfeld, Th., Freiburg. i. Br. 192 pp. with 6 lithographic plates. Jena. Gustav Fischer. 1914. 5 M., $1.25. This monograph, prepared from an address for the 12th International Ophthalmological Congress, gives a splendid and exhaustive survey of the numerous investigations made with regard to the etiology of trachoma and the questions still to be solved. In the clinical introduction the mixed infections, proofs for the contagiousness and its conditions, inoculations of the human conjunctiva, beginning, course, typical-atypical pictures are discussed; then the transmission of trachoma to animals and the capability of filtration of the trachoma virus. The largest space is devoted to a discourse on the bodies of Prowaczek-Halberstaedter. A. regards the further investigation of these bodies as the most promising task for the trachoma problem, under critical consideration of all possibilities and under control of pathologists and zoologists. In his opinion the protozoa findings by Czaplewski can in no way stand criticism and are mostly misinterpreted degenerations of cells, nor can the cell discoveries by Junius be etiologically utilized. The plates are excellent. The admirable work will be read with great interest and benefit. C. Zimmermann.

History of Ophthalmology. Hirschberg, J., Berlin, Graefe-Saemisch-Hess, Handbuch der gesamten Augenheilkunde. 2nd, entirely new, edition. Nos. 241 to 247. 483 pp., with 5 figures in the text and 25 plates. Leipzig & Berlin. Wilhelm Engelmann, 1914. Subscription 14 M. $3.50. This stately volume continues the 3rd book of H.'s history of ophthalmology in modern times and contains the history of English ophthalmology from 1800 to 1850. Its preparation, the author says, was a difficult task on account of the scarcity of preliminary works, as the English who made much history of medicine did not find time to describe it. Recognizing the importance of the foundation of ophthalmic hospitals from 1805 on, he gathered, as there existed no complete and accurate record of them, with the help of E. Nettleship and R. A. Greeves the authetic reports of these institutions and the eye departments of the general hospitals with the lists of the surgeons in charge from the beginning. Thus he obtained the frame into which he inserted the history of the English ophthalmologists of that epoch with digressions into the present time. The careful study of the sources, i. e. the English publications, text-books, monographs, periodicals, and the most important general medical journal of that period. the Edingburgh Medical and Surgical Journal from 1805 to 1855, as well as the travelling reports of foreign surgeons and oculists who visited England, furnished the scientific material and the trend of thought, aspirations, and public opinion in ophthalmology in England. H. emphasizes his great delight in this work, prompted by his repeated journeys to England, his visits of the English eye hospitals and his personal acquaintance and friendship with some of the men here presented. Hence we do not only learn of the achievements but also of the personalities and see the portraits of eminent surgeons, whose names we read so often in literature, or who were personally known to us.

The history of the oculists and hospitals of London occupty of course the greatest part, then follow those of Exeter, Manchester, Birmingham, Bristol, Liverpool,

Leeds, Glasgow, Edingburgh, and Dublin. An alphabetical list of the eye hospitals and departments in England, Ireland, and Scotland, and an appendix on the very scanty history of ophthalmology in the colonies and foreign possessions of Great Britain are given at the end.

Thus Hirschberg by his marvelous familiarity with the original literature and its critical utilization and arrangement of the subject succeeded in adding another masterly work to the preceding volumes, which met with the general admiration.

C. ZIMMERMANN.

ABSTRACTS

POLYCYTHEMIA AND EYE. Ascher, Julius, Frankfurt., a. M., (Klin. Mon. f. Aug., 53, p. 388), found as the most striking symptom of polycythemia on the eye intense and diffuse hyperemia of the conjunctiva of both eyes, especially the palpebral. It has a more livid dark color than the more pinkish red of conjunctivitis and is most intense at the lid borders. From the retrotarsal folds numerous dilated vessels spread into the ocular conjunctiva. It is distinguished from the ordinary conjunctival catarrh by the absence of irritation and secretion. Another symptom is the bluish discoloration of the sclera in consequence of the intense expansion and filling of the chorioid with blood so abounding in red blood corpuscles. One of the relatively slight subjective ailments of the patients is asthenopia caused, as Behr found at an autopsy, by the pervasion of the ciliary muscle by choked blood vessels and subsequent lowered function. A. sees another cause of this asthenopia in the thickening of the chorioid by from 0.3 to 0.4 m.m., which advances the retina with a decrease of refraction of from 1. to 1.5 D.

The ophthalmoscopic picture of the polycythemic fundus is pathognomonic. Fountain-like projection of the dark colored and ectatic central vessels and the appearance of numerous, otherwise not visible, vessels. These crowd the fibres of the disc apart and create the aspect of choked disc of an elevation of from 2 to 3 D. The observation of these symptoms is of the greatest importance for the diagnosis of polycythemia and its therapy at a time, when there are still prospects for a cure or improvement by venesection and proper diet.

C. ZIMMERMANN.

A SENTIMENT.

To Those Who Enter Here.—If you are ill, what skill I may possess is yours. If, through poverty, you can reward my efforts only with gratitude, that is pay enough. If you wish to unburden your heart of private griefs, your story shall fall upon sympathetic ears and unrevealing lips. If there be aught of advice or admonition that my training or study can supply, it is freely yours.

But if you enter here to sell me bonds, books, drugs or gold mines; if your mission be to add to my knowledge by educating me in the use of nauseating sample drugs which will only gather dust in an out-of-the-way corner; if, in your solicitude for my welfare, you come to appoint me medical examiner (providing I buy stock) in an insurance company which I know not of; if you would beg dimes for drink either openly or under the cloak of distress; in short, if you would exploit me for your own financial gain or attempt to prey upon the well-known charity of my profession, then you will find the heart that would serve is a heart of stone, and that you but waste your time and mine.—*Bulletin,* Blair County (Pa.) Medical Society.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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ROCK SLEYSTER, Waupun

Committee on Arrangements

R. W. BLUMENTHAL, Milwaukee, Chairman

NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 6-8, 1915.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

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Marathon	[illegible] W. Jones, Wausau	R. M. Frawley, Wausau.
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Sheboygan	G. H. Stannard, Sheboygan	A. J. Knauf, Sheboygan.
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Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. A. Mason, Marshfield	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

DUNN-PEPIN COUNTY.

A regular meeting of the Dunn-Pepin County Medical Society was held at Menomonie, Tuesday, Jan. 12, 1915, at the office of the president, Dr. F. E. Butler.

A paper on Sterility was presented by Dr. I. V. Grannis. Several clinical cases were presented and discussed by members of the Society.

I. V. GRANNIS, M. D., *Secretary.*

MANITOWOC COUNTY

The Manitowoc County Medical Society held its annual election of officers on January 29, 1915, at Manitowoc.

Following is the result of the election: president, Dr. W. G. Kemper, re-elected; vice-president, Dr. C. M. Gleason; secretary-treasurer, Dr. W. E. Donohue; censors, Dr. J. E. Meany, Dr. F. S. Luhmann, Dr. Louis Falge. W. E. DONOHUE, M. D., *Secretary.*

PIERCE COUNTY

Pierce County Medical Society on February 17, elected the following officers for 1915: president, Dr. Martin Oyen, Ellsworth; vice-president, Dr. C. A. Dawson, River Falls; secretary-treasurer, Dr. Rolla Cairns, River Falls; delegate, Dr. Martin Oyen, Ellsworth; alternate, Dr. Rolla Cairns, River Falls; censor, Dr. W. H. Lumley, Ellsworth. ROLLA CAIRNS, M. D., *Secretary.*

ROCK COUNTY

Rock County Medical Society held a meeting in the Municipal Court Rooms on February 24, at Beloit. Dr. W. F. Lorenz of the Mendota Asylum spoke on a Wassermann Test which might be Provided by the State at a Nominal charge.

NINTH COUNCILOR DISTRICT.

The midwinter meeting of the 9th Councilor District Medical Society was held at Marchfield on February 4th. A symposium consisting of four papers on Anesthesia was presented. A banquet was served at the Hotel Blodgett.

FOX RIVER VALLEY MEDICAL SOCIETY.

The 27th annual meeting of the Fox River Valley Medical Society was held at the Elks Hall, Green Bay on February 10, 1915. The following is the program: 9:00 A. M. Clinic at St. Mary's Hospital—Drs. Fairfield and Bertran; 2:00 P. M. election of officers: president, Dr. A. T. Nadeau, Marinette; first vice-president, Dr. H. Gordon Todd, Oshkosh, 2nd vice-president, Dr. H. Stoelting, Oconto; secretary-treasurer, Dr. R. H. Sweetman, Green Bay. A paper on the Treatment of Pneumonia was read by Dr. H. F. Schroeder of Marinette. Etiology of Splenic Anemia, Banti's Disease, Dr. J. L. Yates, Milwaukee. An operation for Central Abdominal Hernia, Dr. W. E. Fairfield, Green Bay. Prolapsus of Bladder and Uterus, Dr. Thomas J. Watkins, Chicago. A banquet at the Beaumont House closed the meeting.

MILWAUKEE OTO-OPHTHALMIC SOCIETY

At the regular meeting of the Milwaukee Oto-Ophthalmic Society held February 16, 1915, there were present 21 members and 23 guests. The following interesting papers were read and discussed: Focal Infections and Their Relation to General Disease—Dr. A. W. Gray; Demonstration of Roentgenograms of Foci of Infection in the Jaws and Teeth. Dr. E. F. Baur. Nasal Accessory Sinus Infection, Dr. W. E. Grove; The Relation of Focal Infection to Diseases of the Eye—Dr. C. S. Beebe.

The next meeting will be held on March 16, 1915, and a cordial invitation is extended to the medical profession.

G. I. HOGUE, *Secretary.*

ABSTRACTS

A PIECE OF COPPER IN THE VITREOUS. Von Speyr, Th., Chaux-de-Fond, Switzerland, (Klin. Mon. f. Aug., 53, p. 195). The left eye of a man, aged 21, was injured in the forenoon by the explosion of cartridge capsule. V. O. 5. The cornea showed a fine linear injury, the iris an irregular hole, 1 m.m. square, the lens a corresponding opacity, and the vitreous a light yellow piece of metallic lustre. In the evening under illumination of a Nernst lamp a small pair of forceps with excavated ends was under local anesthesia twice introduced through a meridional section of the sclera, 7 m.m. long, between lateral and inferior rectus, without succeeding in grasping the foreign body. After the second attempt it appeared in the wound, apparently following the traction in the vitreous, caused by the retraction of the forceps. S. emphasized this point, as perhaps this current of fluid may in similar cases suffice for extraction of foreign bodies, so that it will not be absolutely necessary to seize it, which means considerable damage to the vitreous tissue. The wound was closed with scleral and conjunctival sutures. 7 weeks later the cataract was extracted. No opacities of the vitreous. S. advises extraction of the foreign body as early as possible, and not to wait for formation of exudations, which entail danger. C. ZIMMERMANN.

DOES THE COMPLETE LOSS OF AN EYE ENTITLE TO A HIGHER INDEMNITY THAN MERE BLINDNESS? Perlmann, A., Iserlohn, (Zeit. f. Aug., 32, p. 431), reports a case of a man who was examined 12 years ago, on account of pain and lacrimation of the right eye in which he lost the sight by an accident in 1890. 8 years later the blind eye was again injured, which necessitated enucleation. P. had to answer the question, whether the loss of an eye for a long time blind, causes a permanent decrease of earning capacity. After discussing it in detail he reached the following decision: In almost all cases of unilateral blindness by accident the injured has by the enucleation of the eyeball and insertion of a well fitting prothesis been protected from annoyance, disfiguration. and further physical damage. With a good artificial eye he is at least not worse off than with a blind natural eye. Hence the removal of a blind eye has not further decreased the earning capacity, and a claim for higher payment cannot be upheld.

C. ZIMMERMANN.

To the Question of Slit Pupils in Man. Tamanscheff, C., Tiflis. (Klin. Mon. f. Aug. 53, p. 93.) The pupils of a woman, who had become blind in the left eye from hereditary juvenile glaucoma, had the shape of a horizontally placed leaf of a myrtle, the vertical diameter being 2/3 of the horizontal diameter. Most likely the glaucoma and the slit pupils were caused by anomalies in the sinus of the anterior chamber, respectively the canal of Schlemm, in consequence of abnormal growth, resp. absorption, of the mesoderma.

From a review of literature the clinical picture and the embroyologic conditions allow the following conclusions. The slit pupil is the result of 2 atypical colobomas in the same eye. The origin of the colobomas can be brought in relation with the indentations of the pupillary margin of the secondary ocular vesicle, described by von Szily in human embryos of 4 weeks, which are not connected with the fetal cleft, may be multiple and are very transient. They are caused by vascularized strands of connective tissue. The adbnormal conditions of growth, respectively absorption, of the mesoderma seem to play an important part in the development of these malformations.

C. Zimmermann.

To the Methodic Examination of the Blood Circulation Near the Corneal Limbus. Streiff, J., Genua, (Klin. Mon. f. Aug. 53, p. 395), recommends as a regular part of the examination of the eyes the methodical observation of the blood-vessels and the circulation at the corneal limbus, with Hartmak's loupe, which magnifies 10 times. Granular current, interrupted blood column, ectasiae, aneurysms, indicate a pathological retardation of circulation, due to local changes of the vessels or general disturbances of circulation, e. g. in weakened heart, poorly compensated heart troubles, disturbances in pulmonary circulation, nephritis, diabetes, gout, anemic and cachetic conditions, lues and senile sclerosis. Through these alterations S.'s attention was called to a case of anterior chorioiditis, and he observed a similar condition of the vessels at the limbus in specific neuro-chorioiditis, in a case of cured gumma of the sclera and after sympathetic ophthalmia.

C. Zimmermann.

Anatomical Examination of a Case of Cilium in the Anterior Chamber. Kirsch, Robert, (From the eye clinic of Prof. E. Krückmann in the University of Berlin. Zeit. f. Aug., 32, p. 426). A piece of iron flew, a week previously, into the left eye of a boy, aged 15, while chiselling. V. only perception of light with good projection. There was no wound. Lid swollen, Chemosis, deposits on Descemet's membrane, iris hyperemic, covered with exudations, hypopyon, pupil closed by exudations, no view of the interior. A lash partly covered by fibrin lay on the iris. The piece of iron was drawn by the giant magnet into the anterior chamber and extracted with the handmagnet through a section at lower limbus. After 2 weeks T 2, wrong projection, iris atrophic and discolored, pupil adherent, in it a yellowish protusion, so that the eye was enucleated. The detailed anatomical description revealed formation of granulation tissue in the anterior segment of the eye, which led to organization and shrinkage. Immediately around the lash were foreign body giant cells, probably originating from the stroma of the iris. The lash was 25 days in the eye and was not changed so that this case did not reveal, whether cilia in the eye are altered in their structure by the aqueous, or more probably by the giant cells, and even absorbed.

C. Zimmermann.

Observations of Acute Conjunctivitis and Trachoma of Infants in Egypt. Meyerhof, M., Cairo, (Klin. Mon. f. Aug., 53, p. 334), reports on 744 children in the first year of life, observed from 1904 to 1913 in private practice. The bacteriological examination was generally limited to smears, but in a larger number of severe cases, especially croupous inflammations, cultures were made and their virulence tested on animals. 161 were cases of gonococcus infection, which mostly occurred extragenitally from eye to eye. Conjunctivitis from Koch-Weeks bacillus was most frequent: 469 cases, i. e. 63%, and 33 cases without bacteriological findings, were most likely also of the same etiology. Mixed infections, mostly with gonococcus and Koch-Weeks-bacillus occurred often. From 1909 to 1913 only 5 cases of Prowazek-Halberstädter's inclusions were observed and showed mild puro-catarrhal conjunctivitis. None of them developed trachoma, 54 infants had trachoma, 12 with corneal complications, the youngest child was 4 months old. The source of infection were the older children of the same family, rarely the mother or wet nurse. M. thinks that the identity of inclusion blennorrhea and trachoma of the new born is not yet proven, and it must first be decided, whether the mucous membrane of infants in the first 2 months of life is at all susceptible to the trachoma virus.

C. Zimmermann.

The Wisconsin Medical Journal

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ORIGINAL ARTICLES

GENERAL PRINCIPLES INVOLVED IN THE TREATMENT OF FRACTURES.*

BY CHARLES H. LEMON, M. D., F. A. C. S.,

MILWAUKEE.

One cannot devote much time to the treatment of fractures without being early impressed by the fact that the average practitioner, as well as some surgeons, seems unaware of the fact that general principles or specific ones either enter at all into the treatment of fractures.

It is a rare opportunity therefore to have a subject of this kind assigned in a symposium, as one may then be pardoned for stating some plain facts in a homely way.

At the outset let it be said that the greatest crime that can be committed against the scientific treatment of fractures is the meddlesome activity of the attending physician, who, in his zeal to relieve what appears to be unnecessary suffering, meddles with the fixation dressing of the surgeon. It makes little difference whether this meddlesome activity be the loosening of straps, the slitting of bandages, or the ruthless slashing of well applied plaster casts, the result is uniformly disastrous. Loss of apposition; impingement of the soft parts by contracture of the muscles which are no longer opposed by the intact bone immediately follows.

It is impossible to conceive of a fracture attended even by the slightest displacement of fragments that is unaccompanied by a definite amount of pain. The primary outpouring of bloody serum or hemorrhage from the bone, or lacerated muscular fibres, causes local swelling. All the pain and suffering that follow tension with or without fixation dressings must follow, and the erroneous conclusion that the pain is due to tight bandages, when in fact the well applied dressings always limit the amount of this primary wound secretion, leads to immediate meddlesome activity; favors increase of swelling and brings pressure to bear at points every well informed surgeon knows are fraught with danger and therefore to be avoided.

In the short time at my disposal I can summarize this matter by saying that the disaster which follows this kind of activity is colossal; many times irreparable; and explanations and expressions of regret are an admission of lack of experience and failure to appreciate the essential fact, that in the treatment of fractures there are general principles which can and must be observed.

No two fractures that have ever occurred were in any sense alike. Their similarity to a practiced eye is marked by their dissimilarity. The practice of the primary removal of a patient from the scene of the accident, which in the past was done by police departments without ambulance surgeons, in all the great manufacturing plants in the country, has been changed to a careful primary examination in an emergency hospital at the plant's site. The wisdom of this procedure requires no argument it is so self-evident.

As no two fractures are ever exactly alike so no two fractures can be treated by the same method. The man who has one method for all cases or even for a majority of his cases will come to grief. Therefore, unless a surgeon has had exceptional advantages in the treatment of a wide range of fractures, the most important procedure after a most careful personal examination of the case is to seek counsel and advice as to which method shall be followed in the reduction of the fracture. How little this practice is followed each one of you can answer for himself. Business consideration should give way to scientific accuracy and we should give the patient in his emergency, when frequently he is incapable of thinking for himself, the best our science and art has to offer him in the community in which we live.

Friendships which have existed for years have been broken by a failure to share responsibility and the unsightly results of some of our well intentioned work at some time or other has given each of us abundant reason for regret.

A simple fracture is not as simple as it sounds.

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 8, 1914.

It may contain elements which if overlooked may speedily result in death. It is a pity that in our nomenclature closed fractures were ever given such a seductive title. The most formidable fractures it has been my privilege to examine, aside from those requiring immediate primary amputation, have been so-called simple fractures in the vicinity of joints:—simple fractures complicating dislocation of the head of the bone, occurring in the shoulder joint and the hip joint; simple fractures extending through the lower end of the femur into the knee joint, resulting in laceration of the popliteal artery and vein; simple fractures of the upper articular surface of the tibia destroying the articular planes of the knee joint, resulting in immediate and almost uniformly permanent, complete disability of the leg; simple fractures of the lower end of the tibia and the lower end of the radius, involving the contiguous joints, and because of the uneven pull of the muscles, resulting in deformity that beggars description, when one attempts to describe the deformity and disability that followed them.

What an important matter it is then, when called to a fracture, to take into consideration the many contingencies that may arise out of the fracture and how these contingencies may be anticipated and as far as possible prevented.

I have failed in my earlier experience to realize the importance at times of closed fractures complicated by swelling of the leg even where the main artery supplying the leg was not completely severed. A leg surcharged with blood due to the crushing of the soft parts incident to being rolled under heavy timbers or between two closely approximated objects of massive construction, to the inexperienced suggests but little. When, however, in your experience you have just once attempted to conserve and save such a leg, you have been taught a lesson, I dare say from my own experience, which fills you with consternation and apprehension when you see a second similar case.

It is possible in a simple fracture of the leg to have in forty-eight hours through a hematogenous infection, a moist gangrene which in the presence of a delayed amputation will invariably result in death. It is possible where erasion of the outer surface of the leg has occurred and the knee joint has been opened, with the most careful asepsis in the treatment of such a case, to have a septic pneumonia from infarction of the lungs which will destroy the patient unless immediate amputation is made.

Nothing but experience will enable one to decide which method should be pursued, whether attempt should be made to conserve the limb or whether the best interest of the patient will result from primary amputation as soon as the patient has in a measure recovered from his initial shock.

The question of the involvement of a contiguous joint by the line of fracture is one of the most important of the non-major considerations involved in the early survey of the injured member. The pull of the muscles and the angularity of the long bones with their curves and bony prominences for the attachment of groups of muscles are factors which must be considered. I recently examined one of my own cases, treated three years ago, where the line of fracture passed almost vertically downward through the lower end of the radius which evidently was not sufficiently long immobilized, so that it caused me a pang when I viewed it.

Think for a moment of the fractures of the forearm which occur at the junction of the upper third with the lower two-thirds. If it has ever been your misfortune to treat one or more of these cases you will understand without further argument, how persistent the pull of the flexors is, and how bony angularity can and will occur after apparent consolidation of both bones of the forearm has taken place.

The conformation of joints as well as the continuity and contiguity of the line of fractures, if properly considered at the beginning of treatment, are of an inestimable value. It must be clearly borne in mind that unless all these factors are thoroughly considered in the primary reduction of a fracture disaster will ensue. Nature can do nothing to help us in the treatment of fractures except to build up callus and the more callus she produces in the fractures which enter the joints the greater the harm that will follow.

It is highly important to consider what the function of a joint is that has come into the line of fracture. If it is a hinge joint the problem is much simpler than if it is a ball and socket joint. In the one instance the most perfect result can be obtained by closing up the hinge while in the other no such trick can be resorted to. The planes of the joint must be considered in their relation to the normal anatomical planes of the bones which enter into the formation of the joint. In addition thereto provision must be made for opposing the pull of muscles which not infrequently in the broken bone exert an entirely different action than

when opposed by the weight of the attached limb. This is especially seen in spiral fractures of the upper fourth of the femur, whether in the hip or below the trochanters. The abduction-flexion treatment of these fractures is one of the achievements of modern practice.

If then we would achieve success in the treatment of fractures we must obtain an end result which to be ideal or even approximately so, must restore anatomical planes, maintain extension and unopposed abduction, so that muscular planes may act freely and effectively.

Nothing short of this can be called a good result. I well know it is not always possible of attainment. I also know, however, it is possible of attainment more frequently than has been the case in the past. Disastrous results have not infrequently been due to the lack of experience of the individual operator, and also to an utter disregard of the many factors we have been considering as general principles, or underlying factors, in this class of cases.

The unfortunate thing for the medical profession is that too many of us live too closely in the atmosphere of our own seclusion. We too early become satisfied and self-confident and it is only when we are rudely awakened by a lawsuit or a threatened suit for mal-practice that we realize that we have not availed ourselves of all the means at our disposal in the community in which we reside.

If we would more generally call in consultation our neighbors of our own profession in our own community we would not only avoid pitfalls but we would improve our personal relation with each other.

I have said elsewhere, but it will bear repetition at this time, that the text book division of fractures into simple and compound was irrational and misleading. We should divide them rather into first, those which can be reduced, and second, those which are incapable of reduction excepting by operative procedure. With such a division how simple the question becomes as to whether or not we think it advisable to resort to operative procedure. It is my firm conviction that the question of operation, in the presence of a state of facts which precludes reduction of the fractured bones, is not debatable. It is a stern fact which confronts us and it should be met as any other emergency is met by competent surgeons.

How simple the conclusion is therefore, where we have a fracture which we cannot reduce or which we cannot hold reduced by non-operative measures. There is no room for debate; there is no lost time; the patient is at once given the benefit of an intelligent operation at a period when all the factors are most favorable for a reduction under the eye; when we do not have to take from the length of the bone massive callus; or take from the length of the bone in order to reach bone capable of regeneration; but all that we have to do is to remove obstructions to approximation and approximate bone which is capable of immediate repair without loss of substance.

I would not have you infer that all these operations are followed by anatomical restoration of lines of force. Some of these operations are followed by disaster, by reason of circumstances either immediately preceding or immediately following the operative procedure, over which the operator himself has no control.

There is a large number of cases that are operated upon away from the hospitals or in the hospitals removed from large centers where the experience of the attending physician who has control of the after treatment is limited. Some even fail where the experience is the greatest and the attention given prior, during, and subsequent to operation, is the most careful and painstaking.

On the law of averages, however, we know in this class of cases as well as in our general operative work, that the larger the experience and the more careful the after treatment the better will be the after results. I would fail at this time did I not urge you to revise your conception of fractures and recognize that in the treatment of them you are undertaking that which is of the greatest importance in its ultimate results and if failure follows delay often incapable of being remedied by operative procedure.

As I am writing these thoughts the earthly remains of one of our most distinguished members, the late Dr. Solon Marks, is about to be consigned to his grave. For nearly half a century he bore a distinguished reputation among us as an expert in the treatment of fractures. His immense experience as a brigade surgeon during the Civil War brought out his native talent for this work in his profession that early marked him with distinction. Himself a victim of an intracapsular fracture of the hip joint which failed of union, and of a dread carcinoma of the face which added sorrow to his declining days, suggests the irony of fate which denied to the skillful his own measure of skill.

I could wish nothing better to our Society at this time than that the mantle which has fallen from these shoulders at the ripe age of eighty-seven years might fall upon some worthy younger brother of our surgical section; and that this symposium on fractures, which the distinguished Chairman of the Program Committee has brought to your consideration at this time may be productive of results, by bringing to the victims of an "Age of steel", the relief; the scientific, intelligent, effective treatment, that this vast subject which has occupied such a large place in the arena of practical surgery, so urgently demands of us.

DISCUSSION.

DR. W. C. F. WITTE, Milwaukee: I have listened with much interest to the paper just read, and hope it will receive the liberal discussion it so well merits. The subject of fractures and their treatment is receiving much greater attention at the present time than formerly.

The literature is now voluminous, while hardly ten years ago we find comparatively few articles on the management of fractures, and yet in my opinion there is no place in surgery where a physician is in greater danger than when dealing with a fracture near a joint. Dr. Murphy has said that 85-90% of the deformities following attempts to reduce a Colles fracture, are due to faulty reduction. And this statement I think also applies to the list of deformities cited by the writer of the paper.

It is necessary that we make more careful and exhaustive examinations, resorting to anesthesia whenever necessary and as advised by Dr. Lemon it is always a great advantage to call in a consultant for advice and protection. Fractures are the same today as of old, only they occur more frequently as the result of our modern way of living, and they are better understood than formerly because our attention has been directed to them more especially during later years by the medical profession as a result of the more general use of the Roentgen Ray, and the ever increasing tendency to operate upon fractures that resist the ordinary methods of treatment.

The public demands more efficient treatment and shorter periods of disability, and I am sure of the opinion that our State Industrial Commission has brought the subject of fractures to the attention of those who were satisfied with poor results, in such a way that they will use greater efforts to give the patients the benefit of every known factor which will tend to secure the best results possible under the circumstances.

In addition to the splendid principles of the general management of fractures as outlined by the paper under discussion, and which I fully indorse, it seems to me that in order to secure the best results in any given case, we must emphasize two important advances which have come to us during recent years, and these are:

1st. The more general use of the Roentgen Ray in the study, diagnosis and subsequent treatment of most fractures.

2nd. The advantages of treating certain fractures by immediate operation.

Many injuries have been treated for sprains or contusions when as a matter of fact the X-Ray examination would have revealed a fracture, thus accounting for the long, unexpected delay in the recovery of the case.

A fracture of the carpal scaphoid prior to the use of the Roentgen Ray was rarely if ever diagnosed as such, while at the present time the condition is not so very uncommon. Stealy says, "Any physician or surgeon who ventures a positive opinion without the services of the X-Ray, will often find his diagnosis reversed by some one else."

There have come under my observation numerous cases in which there has been a total change of opinion and course of treatment as the result of an X-Ray examination.

Formerly we managed these cases according to general principles, now we add to this such procedures as are indicated in the individual cases to secure the best results. We have learned since the advent of the Roentgen Ray, much exact knowledge regarding the kind of fracture, its extent, the position of the fragments, and are thereby better able to judge the proper line of traction and manipulation to secure good reduction. We also have learned to come to an early conclusion regarding the advisability of an open operation in the case under consideration.

I am very partial to having an X-Ray plate made before attempting the reduction, because by this means I can better judge the necessary traction, and at what points it is most advantageous to make lateral traction. If after diligent efforts I am unable to secure a satisfactory reduction I immediately take advantage of the benefits of an open operation.

Mr. Lane has probably done more to advance the cause of the open reduction of fractures than any other one man, and his technique in conducting the operation without introducing into the wound anything excepting the necessary instruments, is excellent. It requires, however, a high degree of dexterity, and to secure the results obtained by him necessitates perfect co-operation by the assistants and operating room force.

Having these advantages at our command, any fracture which cannot be reduced, or when reduced recurs, should be operated upon without delay. By selecting this procedure we obtain the best results possible, the patients suffer far less pain, bony union is more likely to take place, and we are able to deal directly with foreign tissues, which prevent reduction by ordinary means.

The British Medical Association appointed a Committee of Eighteen to report regarding the value of operative treatment as compared with the non-operative management of fractures, which reported as follows (Brit. Med. Jour., Nov. 30, 1912):

1st. The results of non-operative treatment in children under 15 years are very good and unlikely to be improved upon materially by the operative treatment.

2nd. There is a progressive depreciation of the functional result of a non-operative treatment as age advances.

3rd. In nearly all age groups operations show a higher percentage of good results than non-operative treatment.

4th. Although functional results may be good with an indifferent anatomical result, the more certain way to obtain a good functional result is to first secure a good anatomical one.

"Taking all these statistics together, they prove that if the anatomical result is good, the functional result is good in 90.7 %, while the cases in which the anatomical result is bad or moderate, a good functional result is obtained in only 29.7 % of the cases."

By observing these facts when we come across cases of difficult, so-called simple fracture, as outlined by Dr. Lemon, it is our duty to operate on these cases or have it done if we are so situated as to be unable to command the proper facilities.

There remains one more thought in this connection and that is regarding the proper time for operation. I believe the best time is before contraction of the muscles takes place and that would mean within the first twenty-four hours.

In conclusion, I would like to again emphasize:

1st. The necessity of a careful study of each case, and the liberal use of the Roentgen Ray.

2nd. The early operation of those cases not suitable for non-operative treatment.

3rd. The continued review of this important subject, as shown by this symposium.

I might add also to what I have said regarding the extreme time limit in which an operation could be made, that recently I operated on a man 88 years of age, for a fracture occurring near the shoulder joint. I was fearful to undertake the operation on account of the age of the man. I called Dr. Lemon in consultation, and he advised the operation should be performed. I operated, and found that the proximal fragment had rotated very much, and by simply following the technique of Lane, and reducing the fracture properly by getting the jagged edges into the proper points, it remained in position without any appliance whatever. I tried to dislocate it, and found that by holding it in certain positions the fracture would remain in place. I placed the arm and body and chest in a cast, and secured bony union.

I noticed also in this case, and I believe it to be the case generally, that when these fractures are perfectly reduced and in close apposition, they have very much less callus. This bone healed with very little callus, and being near a joint I believe it is more advisable to get perfect reduction. We get less callus and less functional disturbance.

Dr. T. W. Nuzum, Janesville: Mr. President, and Fellow Members of the State Medical Society of Wisconsin: I cannot refrain from expressing my delight and pleasure at seeing our mutual friend, Dr. Sheldon, presiding so magnificently and splendidly here before us, and enjoying the honors he has so well earned by many years of service to us all in his capacity of secretary of this State Medical Society of Wisconsin.

I think it is a fitting tribute paid to him, and the crowning glory to his career as a physician in the state of Wisconsin.

I am not unmindful of the honor of being asked to discuss the paper here presented by Dr. Lemon. We all know of his great ability and large experience, and his concise manner of expressing himself, and how aptly and well he puts every subject that he undertakes to discuss.

There is one thing that I think ought to be mentioned here. An impression might go out which might be disastrous, especially with the younger men of the profession, when he speaks about tight bandaging. I presume that we have all seen the disastrous results from tight bandaging. You know that if these fractures are bandaged early, swelling will take place, and fever will ensue, and sometimes the circulation will be seriously interfered with. Pain is an evidence that that is taking place, and should be noted. I have seen some very unfortunate results, and perhaps all of you have, where the bandages were placed tightly and allowed to remain for several days. I presume that most of those here present have seen one or more cases of pressure myositis caused by bandages. Murphy recognized the necessity of applying a cast, and applying it early, and always saws it through so that there is no possible chance for constriction.

While Dr. Lemon might never have any trouble in the world, it is different with those of us who are out in the country, and do not see our patients often. If they are suffering a good deal of pain, and it is long continued, I think that we had better take note of that and find the reason, because they are either bandaged too tightly, or perchance the reduction is not perfect.

Recently, in attending Lane's clinics in London, I heard him say—and this is not really in regard to Dr. Lemon's paper—that he did not know the function of the periosteum, and did not know that it had any function, and he paid absolutely no attention to the periosteum in setting his bones or repairing his bone work. This was well brought out recently in a case that I happen to have on hand just at the present time, where a lady had her scalp entirely torn off, and in three places the pericranium was torn with it. This looked for a time as if the pericranium was going to stay loose, and as if the bone was too tight, and yet after six weeks the granulations have sprung up, and that has become quite a vascular surface, so it will be only a few days until it can be properly taken care of. I have made up my mind that that part is going to recuperate quite as well as the rest of the skull that has its pericranium left.

In fractures, if we reduce the fracture well, it will not very often be necessary to apply a Lane's plate. I do not believe that a little motion in a bone usually causes delayed union, or non-union. We all know that in animals, where they run about without any bracing at all,

that they practically always get union; it may be a very vicious union, the bone may overlap to a large extent, but they do unite. We do know too that the fathers taught us years ago that if the bone failed to unite, to take off our dressings, or loosen our dressings, and let them have a little motion. And how many times have I, and probably all of you, resorted to that practice where we had delayed union, and, as the patient began to get some motion and use the part a little, it might cause first class union, but you get union in a great majority of those cases. Therefore, I think that the fact that you plate them and hold them tightly together, might have a tendency to make it less likely to have a union than to help union.

FRACTURES OF THE SKULL.*

BY C. A. EVANS., A. B., M. D.,

MILWAUKEE

It would be a waste of time to attempt to classify fractures of the skull. We might divide them into fractures of the base and fractures of the vault. But even this broad classification is unsatisfactory because of the fact that a fracture of the vault or base alone is rare. Phelps[1] found that in 127 cases of basal fracture 115 involved the vault also, and of the 12 which involved the base alone all but two were only slight fissures. Dwight[2] found in 145 fractured skulls coming to autopsy only six in which a fracture of the vault alone was present. So when we diagnose a fracture of the base the chances are 63 to 1 that the fracture, if at all extensive, extends into the vault. And in a fracture of the vault the chances are 24 to 1 that it extends into the base. The above statements, however, for anatomical reasons do not apply to children. Not only is it difficult to correctly diagnose the extent of the fracture but it is also difficult to even correctly diagnose a fracture of the skull. Lockett and Stewart[3] from their experience with the X-ray in the diagnosis of skull fractures, state that they "have no hesitancy in saying that the majority of fractures of the skull are not diagnosed as such and remain undiscovered."

The least important lesion in a fracture of the skull is the fracture itself. There is no separation of fragments due to muscular pull, we need not fear non-union, and the fracture is not fatal in itself. The important lesion is the injury to the brain and other cranial contents produced either by the injuring force or by the resulting circulatory disturbance. And death is not due to the fracture itself but to the intracranial complications incident to the fracture. In skull injuries, however, it is not necessary to have a fracture in order to produce intracranial complications and death.

It is our opinion that all cases of skull injuries should not be looked at from the view point of a skull fracture but should be diagnosed and treated from the view point of an intracranial injury. So this paper will deal with intracranial injuries regardless of whether or not there is a fracture present but bearing in mind that a force sufficient to fracture the skull is more likely to result in intracranial disturbance than a force not sufficient to fracture the skull.

Krause[4] says that "all injuries of the skull, with or without an external wound or complicated by fractures of the skull, may give rise to cerebral concussion, cerebral contusion and cerebral compression. All of these three conditions may frequently appear together to a more or less marked extent." He states that "concussion is a disturbance of function of the brain, occurring immediately after an injury and lasting from a few minutes to many hours. If cure is complete this disturbance soon adjusts itself but if there is no such recuperation a concussion leads to death with manifestations of cardiac and respiratory failure." "In contusion," he says, "the nervous elements are damaged by the applied force. The symptoms occur immediately after the injury but in contradistinction to concussion they last longer. Focal manifestations are more characteristic of contusion." "Compression" he says, "results from injuries that cause a tearing of a large vessel, either within or outside of the dura, thereby occasioning an extravasation of its contents into the interior of the skull." Krause's classification of cranial injuries into cerebral concussion, cerebral contusion, and cerebral compression would be a good one provided it was possible to differentiate the one from the other. But the difficulty is that it is frequently impossible to diagnose either the nature or the extent of the injury. The symptoms of cerebral injuries merge into one another to such an extent that often the best we can do is to diagnose an intracranial injury. For practical purposes we would suggest that all intracranial injuries be looked at from the view point of compression, or in other words, intracranial pressure. It makes no difference whether or not this pressure

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is due to a concussion, a contusion, or a hemorrhage, or whether or not there is a fracture. The important thing to arrive at is the amount of this pressure and the ability of the brain to withstand it. An injury to the brain, like an injury to any other part of the body, is followed in due time by the processes of reaction; namely, swelling or edema, a round cell infiltration, and, if severe, an extravasation of blood. This process of reaction is a space restricting process, a compression, and it is not necessary to have a hemorrhage in order to bring it about. Not much is known concerning the function of the cerebro-spinal fluid but as emphasized recently by Frazier[5] it plays an important part in intracranial surgery. It fills all the spaces of the cranial cavity not occupied by the vessels and nerve tissue. It is a secretion of the choroid gland and is absorbed by the venous rather than by the lymph channels. Any increase above normal implies a disturbance of balance between absorption and secretion. It is the greatest factor in bringing about an increased intracranial pressure. Frazier says that even in brain tumors the increased intracranial tension is the result of the excessive accumulation of cerebro-spinal fluid in the ventricles, basal cisternae, or throughout the subarachnoid space more than the result of the new growth. Any increase in the amount of this fluid produces such a circulatory disturbance that the functions of the vaso-motor, respiratory and cardiac centers are interfered with and we get the picture of intracranial pressure. So the cerebro-spinal fluid must be reckoned with in the treatment of intracranial pressure following an intracranial injury.

The picture of intracranial pressure is not always clear cut. There are certain signs and symptoms which aid us in determining the presence of and the amount of this pressure but there is no sign or symptom which is dependable. For this reason no element in making the diagnosis should be looked upon as unworthy of consideration and too great trust should not be placed in any one sign or symptom. In our experience the most reliable method of determining the presence and amount of intracranial pressure has been a lumbar puncture and we believe that this should be a routine procedure in every case of suspected intracranial injury. Not only will it give a good idea of the amount of intracranial pressure but by relieving this pressure it will aid in the recovery. By the presence or absence of blood in the fluid it will also tell us whether or not there is a subdural hemorrhage,—an extradural hemorrhage will not give a bloody fluid.

From the view point of treatment intracranial injuries may be divided into localized and unlocalized injuries. By a localized injury we mean one in which there is external or neurologic evidence of the location of the injury. Under this class would belong the depressed fractures and middle meningeal hemorrhage. In such an injury the indications for treatment are self-evident and need not be considered. We would like here however, to make a protest against the too common practice of making an osteo-plastic resection of the skull in order to gain a surgical approach, as for instance, in case of middle meningeal hemorrhage. It is too extensive an operation and a sinple one would serve the purpose just as well.

By an unlocalized injury we mean one in which there is no sign or symptom whereby one can definitely locate the injury and for this reason no special point of surgical approach. Fractures of the base of the skull come under this classification but such a fracture is not necessary and when present is not the important lesion. The important lesion is increased intracranial pressure and any injury sufficient to produce a circulatory disturbance and the resulting changes in intracranial pressure may come under the classification of unlocalized intracranial injuries. We feel that in the treatment of these unlocalized injuries the medical profession has not kept pace with the progress made in the anatomical and physiological knowledge of the brain. We too often are content with making guesses as to the exact nature of the injury and giving a prognosis as to the immediate and ultimate outcome of the case and by pursuing a course of watchful inactivity permit the vital centers of the brain to fight their own battles.

It is in this class of intracranial injuries that we wish to suggest the more general use of the split muscle subtemporal decompression and drainage operation after the method of Cushing. The advantages of this approach are so well known that we will not take the time to review them and we will all agree that if surgical intervention is indicated in unlocalized injuries Cushing's operation is the operation of choice. It then becomes a question as to whether or not surgical intervention is indicated. In discussing this question we must bear in mind that the skull is a closed box and does not provide for an increase in size; that trauma to

the brain, like trauma to any other part of the body, is followed by the process of reaction and that this process is a space restricting process, that this space restriction produces an interference with circulation and that this tends to bring about an anemia of the vital centers and death. Treatment then must be directed towards a relief from pressure and this operation accomplishes this in two ways, first, by draining away the cause of this space restriction, whether it be cerebro-spinal fluid or blood, and second, by the removal of a portion of bone from the temporal region allowing for a certain amount of expansion of the brain and "possible accommodation to a hidden clot". All this aids in bringing about absorption and a return of the circulation to normal. The operation is one for the open treatment of intracranial pressure and not one for the open treatment of fracture of the skull. The operation, however, is not always indicated and should not be used as a rountine. For instance the injury itself may afford sufficient relief from pressure as is seen in basal fractures with a free drainage of cerebrospinal fluid and blood from the ears, nose or mouth. This often is so great as to cause one to wonder what chance the patient would have had if there had been no outlet for drainage and a basal drainage had not been done. Again repeated lumbar punctures may afford sufficient relief from pressure for the subarachnoid space of the brain is continuous with that of the cord. But if this fluid is bloody the results from lumbar puncture are not satisfactory and a basal drainage is indicated. Again because of the non-severity of the injury the brain can take care of its own process of reaction and repair.

An unlocalized intracranial injury is often associated with a fracture of the base of the skull and it is in this condition that a decompression with drainage is of special value. From our experience with this operation in such cases we have learned some points worthy of mention. One is that where there is a compound fracture of the vault with an uninjured dura and evidence of a subdural clot it is safer to open the dura and deal with the clot through a subtemporal opening than through an opening in the dura at the site of the injury. That if there is an associated middle meningeal hemorrhage this vessel can be ligated and the clot removed through the subtemporal opening. We would suggest this approach as the one of choice in a middle meningeal hemorrhage. That there is no reliable guide as to which side of the skull will reveal the greatest indications for opening. Other things being equal the right should be the one of choice. If the findings are not sufficient to account for the symptoms or if there is no improvement, the left should also be opened. A decompression without opening the dura is not a decompression. A decompression alone is not sufficient and a basal drainage must also be done and to insert this drain the base of the brain should be elevated,—it is often not until this is done that the basal clots appear. Blair's[6] experimental work showed that "an animal struck upon the vertex showed at autopsy a basal clot around the cisterna magna and the interpeduncular space and enveloping the pons and medulla. In animals struck in the same way but on which an immediate subtemporal drainage was done, such a clot was either absent at autopsy or at least absent on the side that was drained."

Statistics from large hospitals show that the mortality following basal fractures without operation, is from 50% to 65%. As to the mortality following such injuries where a basal drainage has been done no statistical conclusions of great value can be drawn because of the rather small number of results reported. Cushing[7] in 1907 reported his results in a series of 15 cases with a mortality of 13%. In a paper read before The Wisconsin Surgical Association in April I reported the results in a series of 25 cases with a mortality of 20%. Blair in a paper read at Atlantic City in June reported a series of 42 cases operated on by him or his associates, in which a single or bilateral subtemporal operation had been done. This report is of particular value in that he took a series of 80 unoperated cases, coming under another service, and compared the results. Of the 80 unoperated cases 17 died within two hours after injury and for the sake of comparison these were eliminated, leaving 63 unoperated cases surviving two hours or more. In the series of 63 unoperated cases there was a mortality of 65%. In the 42 operated cases the mortality was 43%—a reduction in mortality of 22%. As to his operated cases he says that the operation, with few exceptions, was done only on apparently very severe injuries. Of these injuries five were deep gun-shot wounds of the brain. To show the indications for operation he states that in 31 of his 42 cases a single or bilateral operation revealed pulpefied brain substance, a subdural clot or severe hemorrhage and this was dealt with. In seven others either an extradural clot or contused brain was exposed. Averaging the

above results following operation and taking the average mortality without operation at 50%, which is low, this is a reduction in mortality of 25% following the basal drainage operation. Such a reduction surely makes this operation worthy of more general acceptance.

The saving of life, however, is not the only consideration in the treatment of these cases for we must use every effort to guard against the remote possibilities of the injury. We believe that this operation does this and gives us the greatest assurance possible for a favorable ultimate outcome of the case. Murphy[9], speaking of skull fractures, says, "the injuries with compound or depressed fractures are the least injurious, that is, where the edge of a sharp instrument or bone penetrates the brain, if there is recovery from the immediate effects you rarely have any subsequent trouble. But the blows that produce unconsciousness, with or without fracture, never leave the patient free of the danger of a cerebral complication." Bloodgood[10] in 1910 said "up to the present time I have not been able to find any case of epilepsy following an injury of the skull in which some piece of the skull was removed either by operation or by the injury itself. This would substantiate the view that epilepsy is more apt to be started up by changes in pressure than by actual injury." The above statements, if true, are surely strong arguments for a decompression drainage operation. In the conditions they mention there is a decompression performed by the injury itself and if such a decompression does away with subsequent trouble then surely a subtemporal removal of bone with drainage should greatly lessen the chances of subsequent cerebral complications.

Finally as mentioned by Blair we believe that the time of operation is important. In his series, of the cases that were operated on later than six hours after the injury 50% died; while of the 17 cases operated on within two hours after the injury only 30% died—a reduction in mortality of 20%, and a reduction in mortality over the unoperated cases of 35%. The tendency is to wait unless there are signs of increasing pressure but often the failure of the vaso-motor and respiratory centers come so suddenly and death follows so quickly that we regret having waited.

In conclusion we do not wish to be understood as advocating surgical intervention in every case of basal fracture or intracranial injury but only in those cases where it is indicated and also when there is doubt as to its indication. The operation is simple and harmless and in no case has there been cause for regret at having operated. There is a large percentage of intracranial injuries that are primarily fatal, where the mortality can not be reduced with or without operation; there are cases where the patient will recover whether operated on or not, either because of the non-severity of the injury, or because of the relief from pressure afforded by the injury itself or by a lumbar puncture repeated as needed, some of these will recover completely, others with cerebral complications; and there is a large percentage, about 30%, that will recover only after surgical intervention, some of these recovering after a drainage on one side, others only after a bilateral drainage.

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DISCUSSION.

DR. P. F. ROGERS, Milwaukee: Dr. Evans' paper makes one point in the treatment of intracranial injuries that is the biggest thing about the whole subject, namely, when to operate and when not to operate for intracranial injuries.

Very properly, he has passed by the injury itself, the skull fracture, as of minor or of no importance, unless it be a seriously depressed fracture. The serious thing about a head injury is the injury to the contents, and the resulting pressure.

Injuries within the skull may take place at the point where the force was applied; they may also take place at a distant point, but on the same side of the skull, by extension of the fracture. For instance, a blow on the back of the head may result in a lesser fracture running forward and severing the meningeal artery, and we may get meningeal hemorrhage from a blow on the back of the head.

Also the injury may be on the opposite side of the head from the blow, due to what has been termed *contre coup*. There is a disposition to contradict such a *contre coup*, and, while I have never seen a blow on one side of the head, and fracture on the other, I have seen *contre coup* injury, that is, a blow on the right side, and stellate fracture at that point, and opening of the

skull showing no clot at that point whatever, and yet terrific disturbance of the brain and evidence of terrific intracranial pressure, and opening on the other side of the skull, where there was no injury, no fracture discernible, no members lacerated, not a very large clot, and *contre coup* injury of the brain.

Dr. Evans touched but lightly on the symptoms which should guide us in our treatment of intracranial injuries. He did say that most of the symptoms are not conclusive, and that it is hard to be certain whether or not we have intracranial pressure from any one symptom; that all the symptoms are of enough importance, however, to be considered, but that no one of them must be relied upon absolutely to determine the presence or absence of the pressure.

The symptoms usually taken into consideration are the choked disk, which I think most students of intracranial injury now disregard as of minor importance. Dr. Seaman, who, I believe, is to speak on choked disk, as a symptom, may think otherwise, but certainly a large number of cases of intracranial pressure do not show choked disk.

I am mentioning these in the order of importance as nearly as I may.

Second, the hard, slow pounding pulse, which is supposed to be characteristic of intracranial pressure. This may or may not be present.

Third, high blood pressure, we must always remember, may be due to an arteriosclerosis, which may have been there before the injury was received; so it may have no bearing whatever on the existence of the intracranial pressure.

Fourth, irregularity of the pupils, and especially fixation of the pupils. The dilatation of one pupil, and its fixation, is, in my opinion, one of importance, and in my judgment a clue of considerable value in the determination of the side on which the injury occurred, the injury usually being on the side of the dilated and fixed pupil.

Fifth, the symptom which Dr. Evans mentioned, spinal puncture, giving spurting of the spinal fluid as an indication of the increased pressure. Occasionally it will give a spurting of spinal fluid, where normally, it is so low we get a simple dripping. Wherever that spurting occurs, we know we have got increased pressure. As Dr. Evans says, it is not only valuable as an index of the pressure, but helps to relieve that pressure.

Sixth, and perhaps the most important of all the symptoms, certainly equally important with the spinal puncture, is the unconsciousness of the patient, particularly prolonged unconsciousness, with deep stertorous breathing. This may occur primarily on the receipt of injury and may result simply from the concussion received at the time. That unconsciousness, however, usually is not prolonged, and if it is prolonged, and accompanied with the stertorous breathing, the patient should be given the benefit of the doubt and decompression should be done.

It so happens that within the last ten days in my service at the Emergency Hospital, I have had three cases of basal fracture. Dr. Evans' paper deals particularly with basal fracture, that is, unlocalized injury of the brain, the basal injury being generalized intracranial pressure, without being focalized, as a rule.

These three cases are interesting on this occasion.

The first was that of a man thrown from an automobile in collision with a street car, and rendered unconscious. He was brought into the hospital delirious, his breathing soft, his pupils equal and flexible, his blood pressure 160, pulse was soft and regular. He was bleeding profusely from the left ear. The delirium and pressure soon subsided, and in the morning his mind cleared up and he left the hospital within five days. He is at present in good condition, and this happened about ten days ago. That was a case where the injury to the petrous portion of the temporal bone provided free escape of blood, and that acted as a safety valve, and prevented compression.

The second case had no evidence of external intracranial injury, a slight discoloration over and behind the ear. In the next twenty-four hours he had free bleeding from the ear, and was not decompressed, and has left the hospital in three or four days in good condition.

The third case occurred night before last. The man received a blow on the back of the head, a scalp wound at the right of the occiput, with a contusion. This occurred at 2:30 in the morning. He was operated on at 3:30. In this case there was a small contusion at the right side of the occiput. There was little bleeding from the right ear. He had a dilated pupil and stertorous breathing, no pressure and no compression symptom.

On the strength of the unconsciousness, the temporary hemiplegia and dilated pupil, decompression was done on the left side, and there the clot was evacuated at that point. Drainage was done in the middle anterior fossa, the breathing became soft and regular when the dura was opened, and his condition was satisfactory when I left yesterday afternoon. It may be necessary to do a second decompression, if his unconsciousness does not clear up in the next twenty-four hours.

DR. W. E. FAIRFIELD, Green Bay: Mr. President and Gentlemen: Dr. Evans made one statement in his paper which, had it been the only sentence contained in the paper, would have proven the value of what he has given us this afternoon, and amply repaid us for all the time that we have spent in listening to him and to the discussions. I refer to the statement in which he said that in a fracture of the skull the least important lesion is the fracture.

For hundreds of years surgeons have been treating fractures of the skull as though the fracture was the sole trouble, whereas the fracture itself is always a fortunate accident, provided it is open.

If Bloodgood's assertion following his investigation is correct, namely, that in cases of fracture of the skull in which there is loss of bone, he has never been able to trace a case of epilepsy arising from it, then that goes a long way to prove that the fracture is a fortunate part of the injury.

This paper is one of great value to the medical profession at large, because the operation of decompression is a very simple one, very easily performed, and can be done by a surgeon with very little experience, particularly if he possesses the Hodgson drill, or some instrument of that character.

The paper has been discussed very thoroughly by the men who have preceded me, and I do not want to take up any more of your time, as I am to appear again, and will inflict myself on you for a few moments.

There is one thing in regard to another paper that I would like to make mention of while I am on my feet.

In the open treatment of fractures, stress has been laid upon the fact that the field should be thoroughly aseptic. We all admit that. But I think it is a crime to use iodine and bichloride on a surface in which you intend to place metal into the wound. If there is anything that will irritate the tissues it is chemical action going on in the tissues, and you cannot place two elements together which will give you quicker chemical action than bichloride and metal or iodine and metal. If you are going to prepare a surface with these antiseptics I should advise that the surface be sealed down and perfectly covered, and the cut made through the covering.

MORPHINE AND COCAINE ADDICTION.*

BY HERBERT W. POWERS, M. D.,

WAUWATOSA.

For the purpose of this paper we may dismiss with few words the history of opium, geographical distribution of the opium habit, together with the peculiarities of the constitutional reaction to it upon the part of Oriental races. Sir Clifford Allbutt notes that opium is used by many thousands of Orientals in the belief that the drug is useful to them and its use is not by them abused in any ordinary sense of the term; indeed it is by them used much as we use tea, coffee or tobacco.

The discovery of opium seems to have occurred in very ancient times as it is stated that early Egyptian hieroglyphics refer to its use by dwellers along the Nile, it is mentioned in the writings of Homer, and Dioscorides describes a method used by the Greeks for obtaining its narcotic properties. Dr. David I. Macht recently reviewed the history of opium in a masterly manner in the Journal of the American Medical Association.

The use of opium has been continuous throughout the ages and about 1803 and for some years thereafter chemical study and experiment revealed its composition and its contained alkaloids were studied. Apparently, it was first used hypodermically in 1866 in France and about this time the dangers of morphinism seem to have been first realized.

In a number of years in special practice, I do not recall more than one or two patients who used opium as such; almost without exception habitues in this country are addicted to morphine, with an occasional codeine or heroin user, and in almost all of the cases the morphine is taken subcutaneously. I am aware of course, that there are some individuals who have acquired the opium habit as such, and who use laudanum, others using opium pills and some who inhale the fumes through pipes, also a few habitues use heroin or cocaine by insufflation, the drug then being absorbed through the nasal mucous membrane.

For the purpose of this discussion, however, I think that we may best study the group of morphine users, variously denominated in medical literature, the morphinists, or morphinomaniacs.

ETIOLOGY.

From the etiologic standpoint, I believe that we may separate these unfortunates into three groups:

First, those suffering from chronic, painful diseases, as for instance, locomotor ataxia with lightning pains, gastric crises, etc., neuralgias, painful peritoneal growths, or what not.

Second, those suffering from acute painful illnesses as gallstones, or renal colic.

Third, those who, although free from physical ailments, resort to the use of morphine in order to free themselves of painful psychic disturbances, as mental depression and insomnia, also those who acquire its use in search of new sensations. This third group, of course, includes those nervously weak individuals, especially those who are so from inheritance, whose will and judgment are in unstable balance, who rush to gratify every desire, content to and intent upon fulfilling to-day's wish, heedless of the future evil which may be resultant upon so doing. Such individuals, impatient under physical pain, metal suffering or disquiet, or perchance sleeplessness, turn readily to drugs and in too many instances, learning of the effectiveness of morphine, resort to its use and very quickly become enslaved by the habit.

In many instances, the use of the drug results from a desire to bring about a state of good feeling in a person subject to indefinite malaise or physical prostration.

*Read before the Medical Society of Milwaukee County, Feb. 12, 1915.

SYMPTOMATOLOGY.

How may we recognize the morphine habitue? The habit is impossible of detection in the early stages as the patient usually succeeds in hiding it. I have had this forcibly impressed upon me by having in one case the wife of a very able physician placed in my care for a supposed neurosis which turned out to be due to morphine. I did not myself correctly diagnose her condition for more than a week, the patient having taken the precaution to bring along several extra pairs of shoes, in the linings of which she had introduced morphine tablets. Her husband had not even suspected the true cause of her illness.

The classical descriptions of the morphine user, apply usually to those in whom the habit is of long duration. In such patients, an amnesia occurs quite similar to that found among the aged. The will power is enfeebled, emaciation, pallor and restlessness ensue, with at times a remarkable wrinkling and sallowness of the skin.

Several patients who have come under my observation have done so because of failing earning power, resultant upon their inability to get started in the morning. They were unable to meet any business appointment before afternoon and at night unable to sleep until well nigh daybreak and until after having used considerable quantities of the drug. Many times the typical symptoms, emaciation, pallor, restlessness and hallucinations do not appear, though in other cases disturbances of nutrition make their appearance within a few months. I have seen but one case in which the so-frequently described lividity, sallowness, and wrinkling were present and this was in the instance of a woman, wife of a physician, who took opium by mouth. The description of the mental changes in early addiction to the habit given by Sir Clifford Allbutt aptly described many cases. He says: "The symptoms of morphinism in the earlier stages of the habit are rather moral than physical. The stigmata of a morphinist are plausibility and disorderliness; and by these he may be known. He is frequently full of schemes for the benefit of his household, his parish, his country and the world. He is usually a clever and often an interesting person, sometimes endowed with a kind of genius, but owing to the perverseness of circumstances, nothing ever comes off. So perverse are things that if one did ever indulge a taste for drugs, the occasional aid—just for a week or two till things are straight, should be regarded as a venial matter, if not justifiable.

"If the patient comes to the physician, he will have had a dose within an hour; his pupils are contracted, he is voluble, ingenious in promises and excuses and very tiresome. He is an hour late for his appointment, owing to the faults of others; if you call on him, you are kept waiting for so long a time as you choose to be detained. If he can avoid it, you do not see him in his ill-humors—querulous, exacting and slanderous; yet the morphinist is never so lost as the alcoholist, his brain is not fuliginous; on the contrary for some little time the length of which depends on the economy of the drug, it is brisk enough. While the stage of elevation continues, he is capable of doing a good spell of work in a spasmodic and irrelevant way; therefore, although slovenly, he is not chronically dirty, like a drunkard, but is capable once or twice a week of a good washing and owing perhaps to an insensibility of his skin, his desire for "fresh air" is inordinate. To dress in the morning is impossible until one or more doses of morphine have been taken and the unfortunate user is likely to get to breakfast while the rest of the world is at luncheon. This utter disregard of time is a marked feature of all users of narcotics and of morphinists especially.

"The finer lines, or for that matter the graver lines of ethical conduct become so blurred that the victims cease to regard them and if confronted with proofs of falseness, the morphinist flippantly ignores them or says he is driven to prevarications by the nagging or bullying of his friends."

The objective physical symptoms of chronic morphine poisoning are substantially as follows:

First, nutrition sufferers, the fatty tissue gradually disappears, the skin becoming flaccid and loose, the face pale or ashy gray or sometimes deeply red; the pupils are generally narrow and react slowly to light, double vision and accommodative disorders frequently occur; hoarseness, thirst, loss of appetite, tremor, depression and restlessness are symptoms of usual occurrence; constipation is the rule and there are frequent gastric disturbances; impotence and amenorrhea, are well nigh constant. True psychoses rarely result.

Practically, I should consider a change of personality evidenced by alteration of mood, especially if it is depression alternating at sufficiently close intervals with periods of euphoria as suspicious; if to this be added capricious appetite, constipa-

tion or diarrhea, and pupils at times narrowly contracted, at times dilated in the absence of any of the recognized psychoses, as sufficient to support a diagnosis of morphinism, which, of course, could be proven or disproved by isolation for a short period. The symptoms of withdrawal which appear within a few hours after withholding the drug manifest themselves as follows: the patient becoming restless, anxious, soon excited and begging for morphine, yawning, salivation and coryza, usually present themselves, succeeded by nausea, vomiting, diarrhea, disturbances of vision, widely dilated pupils, neuralgic pains and choreic form of jactitation.

How long does it take to acquire the morphine habit? Probably two or three weeks or less if the patient be aware of the drug used and in a position to acquire it himself. While serving an internship, I saw the development of the habit in one of my brother internes, who, suffering from intestinal colic while administering an anesthetic, was given ¼ grain of morphine hypodermically by the surgical assistant, so that he might continue with the anesthesia. The relief from pain was so prompt and the feeling of well-being so grateful and enjoyable that soon after, when a little below par, the young doctor took another dose thinking of course that he knew the ins and outs of drugs so well that there was no danger of habit formation; this experience was several times repeated, until it was necessary to increase the amount a little and soon there resulted such a feeling of depression and gloom as the effect of the morphine wore off, together with loss of appetite and increasing inability to go on with accustomed duties, that each dose was necessarily followed by another. He was in the toils and died four or five years later in a state of extreme cachexia, falling an easy victim to some intercurrent disease after having been a charge upon his family most of the time since acquiring the habit.

Of greatest importance to the patient and to the family is the prognosis. What may we expect, what may we hope and what must we fear? To answer these questions is extremely difficult and in making a statement in a given case, we must carefully weigh all of the individual factors pertaining to the patient. Further, we must make separate statements as to the prospect of immediately successful withdrawal and as to the prospect of permanent cure. As to the immediate withholding of morphine, a favorable prognosis is justified in any case in which the social status of the patient permits his treatment for a sufficiently long period of time, say two to four months, as there is little difference of opinion as to the withholding of morphine without endangering the patient's life except in a few rare cases. A more cautious attitude must be taken, however, in regard to the statements as to the possibility of a relapse. Those writers whose opportunities for keeping in touch with their patients are greatest, are almost a unit in taking a gloomy view of this situation. Levinstein considers the prognosis as to permanent cure doubtful, Kraepelin considers the outlook "most serious", while Deutsch, Oppenheim and Bertololy consider the prospect for permanent cure very unfavorable. Erlenmeyer and Bumpke say that most cases relapse. Nearly all of these writers consider that in the majority of cases, persons afflicted naturally lacked will power and resistance and had but little hold upon themselves. In other words, they were of the constitutional neuropathic group. Deutsch reviews the factors of importance in the permanent cure of a morphinist as follows: first, the pecuniary condition; second, the nervous make-up; third, the condition of patient's general health, and fourth his age. Berthololy considers the principal criteria for forming an opinion as the gravity of a case and the gravity consists in the greater or lesser danger of relapse: first, the duration of the habit, second, the number of previous relapses; third, the degree to which the patient tolerates morphine; fourth, the quantity consumed daily; fifth, existence of complications.

While admitting the importance of the considerations advanced by Deutsch and Berthololy, it seems to me that we may consider as of unfavorable prognosis all patients in the first group stated in the etiology, that is, those suffering from chronic painful ailments such as locomotor ataxia, painful peritoneal growths, etc., also those enumerated in group three, who, free from painful physical ailments, have resorted to the use of morphine on account of insomnia or to relieve painful mental states, or in search of new impressions; these patients variously termed neurotic, neuropathic or psychopathic and who form a very large proportion of the drug and alcohol habitues, I believe nearly always return to their habit.

This would leave us with the patients enumerated in the second group—those who sought relief from pain of acute illnesses, such as renal or hepatic colic and in whom the causative condition has

in the meantime been removed, as ones in whom permanent results might be hoped for.

I might say at this juncture that some of the wonderful results reported in the American literature seem to me beyond belief. One author reports 800 cases cured with only 10% relapses while the reports from the German clinic show only 6 to 10% of permanent cures. Kraepelin reports 8%. A recent very careful analysis of cases from Siemerling's clinic in Kiel reports about 14% remaining well after four years.

A number of methods of treating the morphine habit have been tried and they may be divided into three general headings. First, *immediate* withdrawal; second, *rapid* withdrawal by which would be understood the withdrawal of all morphine within from five to ten days; and third, *gradual* withdrawal.

We will consider first the method of immediate withdrawal, which was advocated by Livinstein and more used abroad perhaps than in this country although it has also been used here, particularly, I think, in public institutions. In order to successfully carry out this method, the patient must be completely isolated and under close observation, preferably in an institution of some sort and under the immediate observation of a physician. He is placed in bed and morphine is withheld, the symptoms arising in consequence being met as best they may. Almost all text books contain strongly worded warnings of the seriousness of collapse occurring in this form of treatment and of the imminent danger of death. My colleague, Dr. Eugene Chaney, tells me, however, that he has subjected a great many patients to treatment in this manner and never saw dangerous symptoms develop although the patients do reach a very pitiable state. I have not had personal experience with this method.

The immediate withdrawal of morphine and substitution of hyoscine first described by Lott of Texas about 1900 or 1901 has proven successful in many hands and I have used it repeatedly in a modified way. The details of his method are substantially as follows: the patient is bathed and put to bed in a room in which there is a minimum of furniture and preferably in which the walls and bed clothes are free from figures of any sort as these serve to accentuate the hallucinations which result from the subsequent treatment. It is essential that the patient be under the care of a competent nurse. The treatment is then begun as follows: an hour or two before the morning dose is due, he is given hyoscine hydrobromate 1/100 of a grain combined with 1/20th of a grain of strychnine subcutaneously and subsequently is given 1/200 of a grain of hyoscine hydrobromate every thirty minutes until he manifests physiologic effect evidenced by dryness of tongue and throat, moderate flushing of face, dilatation of the pupils and beginning mild delirium. In bringing the patient thus under the influence of hyoscine, one has been able to determine the dosage necessary to maintain the physiologic effect which we may say in most cases would be from 1/200 to 1/100 of a grain every hour and this is continued for about 40 to 48 hours when the patient is allowed to emerge and his condition with regard to the craving, to muscular pains, jactitation, pulse, etc., are observed, and if necessary the treatment is repeated for another 36 or 48 hours. During this time, no food would have been given other than liquids, as, during the hyoscine administration, the secretions are so interfered with that the digestive functions are well nigh in abeyance.

When the patient is again permitted to emerge from the effect of the hyoscine and is found not to be suffering from craving the use of pilocarpin in ⅛ grain doses subcutaneously every two hours is commenced and maintained for one or two days to provoke glandular secretion and from this point, feeding is commenced and a period of reconstruction ensues. This method, which I have always assumed was the inspiration of the Towns-Lambert method, has been and is very largely used by the multitude of commercial institutions advertising to cure the morphine habit in three, five or ten days; and I wish to say especially upon this point that Dr. Lott himself expressly calls attention to the necessity of a prolonged period of re-construction following the hyoscine substitution treatment and indeed when a patient emerges from the treatment, he is in an unfortunate condition physically, being to all intents and purposes in a state resembling high grade neurasthenia, the functions necessary to health, appetite, digestion, sleep are all impaired and he requires careful nursing and protection for a number of weeks, I should say not less than four and better eight.

One other method, which was much advocated and indeed used with a good deal of success, was that of McCleod by which the patient was brought under the effect of bromide by means of massive doses, say, 120 grains of sodium bromide in a

glass of water every two hours during the day until a state of bromide narcolepsy was reached which would usually ensue within not more than two days on such dosage. The patient upon arousing from this stupor would be found to have passed the period of acute suffering, due to abstinence from morphine. So far as I know this method is not now in general usage, having been superseded by the hyoscine substitution method.

Considering now the methods of rapid reduction, that of Towns and Lambert or a modification of that of Lott offer perhaps the most typical examples of the methods used. I have myself frequently used hyoscine in somewhat lesser quantity than that advocated by Dr. Lott and given morphine in diminishing doses for three or four days and indeed I am somewhat partial to this procedure. In the Towns-Lambert method, a so-called specific mixture is used which consists of two parts of 15% tincture of Belladonna and one part each of fluid extract of Zanthoxylum and fluid extract of Hyoscyamus which is given in capsule in hourly doses and accompanied by massive doses of cathartics. The patient is given about 2/3 of the daily allowance of morphine in the first twenty-four hours and on the second day is given about one-third of his former daily dosage, and again on the third day is given about half the amount of morphine which had been given on the second day, after which it is expected that no more morphine will be used. During the treatment, which in general may be expected to cover from two or three to five or six days, light food, liquids and soft solids only are given. This method appears in detail in all recent text books so that it is not necessary to describe it more minutely here. This form of treatment is also in use by many commercialized institutions. A few months ago, I had as a patient a physician who had fallen a victim to the morphine habit and had gone to one of the most widely advertised guaranteed cure places where he was submitted to the Towns-Lambert treatment; the morphine was withdrawn and he was encouraged to leave the institution at the end of two weeks, being told that he was cured. This particular institution, he told me, exacted payment of $180 in return for which they guaranteed to cure the patient and to permit his stay for a period of six weeks. It was the custom, however, at the end of ten days, when the morphine had been withdrawn, to say to the patient that he was cured and they would be glad to have him remain to the end of the six weeks, but of course, since he was cured, it was not really necessary and as a matter of fact most of the patients went within two or three weeks. Several of them the doctor said were taking the cure for the second time.

The method of gradual reduction is carried out substantially as follows: the patient is necessarily in a closed institution and extreme precaution is necessary to prevent his securing a supply of the drug while under treatment. If the amount taken has been very large, above 15 or 20 grains per day, it is often well to reduce it very rapidly to that amount which represents the patient's organic need. It is very frequently found that such patients will go along without suffering on from four to six or seven grains in twenty-four hours. Having determined this amount, allow the patient to have that in divided doses for a week; meantime giving him the advantage of rest and generous diet. Then, unknown to the patient, a reduction is made. If the amount be six grains per day, it may be reduced to five grains per day without withdrawal symptoms appearing and after two or three days, the patient again may be subjected to further withdrawal of three-fourths of a grain. In this way, the amount is reduced step by step without causing the patient extreme discomfort and in many instances the patients gain in weight while being so treated. It must be borne in mind that as the total amount taken becomes smaller reductions of a given amount form a larger proportion of the whole.

When the amount has been reduced to 1/200 of a grain in twenty-four hours, it may be cut off entirely. It is interesting to note that a reduction of 1/60 of a grain towards the end of treatment is frequently felt as much as the reduction of one grain from the larger amount when first beginning the treatment. So much for the general considerations in regard to treatment of morphine addiction.

From a practical standpoint, the subject is a very difficult one and in the majority of instances, patients presenting themselves for treatment are subject to pecuniary limitation or unwilling to give the amount of time necessary for thorough treatment.

I have practically given up using the gradual reduction method for several reasons; first because even after explaining thoroughly to patients the length of time that would be necessary and obtaining consent, yet at the end of three or four weeks,

they become impatient and wish to leave within a week or ten days or at some time earlier than that agreed upon. They are also quite active and it is difficult to know that they do not receive illicit supplies of morphine. This led me to resort to the hyoscine substitution method and this is not without disadvantage in that patients, free from morphine for ten days or two weeks, begin to press to go home and frequently in spite of anything that can be said they will leave within two or three weeks after the morphine has been withdrawn and to my mind they are in extreme danger because of brief recrudescence of withdrawal symptoms upon fatigue or from insomnia which frequently lead to renewal of the habit and I believe they do relapse in the majority of cases.

I have no statistics on relapses in my own practice and I believe that such statistics would be well nigh impossible to collect in this country. Siemerling's data are based upon personal observation of the patient and while not very encouraging are more dependable than any that we can offer.

COCAINISM.

Addiction to this drug has in a great many cases come about by attempting to substitute it for morphine or very frequently to relieve morphine pains. Indeed, I have never seen a case of pure cocainism, and my colleague, Dr. Eugene Chaney, in a number of years in public institution service, tells me that he never saw a case. I find also but little reference in literature to cocainism except as a complication of morphinism.

As one hears so much from all sources and sees many references in newspapers to the use and sale of cocaine, one wonders why it is that cocaine addicts do not come to the attention of men engaged in special practice. It is undoubtedly true that in recent years, this drug has been used so much in dentistry and minor surgery that a knowledge of its uses has become more or less general.

The symptoms resulting from the use of cocaine are those of marked stimulation, the pulse is increased, the pupils dilated, the patients usually are active and extremely talkative, tend to repeat the same remarks a number of times, write useless letters, etc. The effects, however, are very fleeting and the dose frequently has to be renewed. A chronic addiction results in marked emaciation, insomnia and paresthesias of which formication is a common one and among habitues is described as due to the "cocaine bug." In the psychic sphere we have altered moral sense, mendacity, irritability and impaired judgment. Erlenmeyer first called attention to a profoundly depressed, lachrymose, demoralized condition with moaning and sighing which may supervene. Morphine and cocaine addiction are competent to produce psychopathic states with resultant morbid impressions, insistent ideas, etc. In all cases, which have fallen under my notice, I have immediately discontinued the use of cocaine and treated them as for morphine addictions.

THE INTRAMENINGEAL TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM.*

BY LOUIS M. WARFIELD, M. D.,

MILWAUKEE.

Since the discovery by Noguchi of the spirochetae pallidae in the brains of paretics and the discovery by Moore shortly after of the organisms in the spinal cord of tabetics there has ended a long chapter in the history of medicine. Many were the papers and long were the series of statistics compiled to prove or disprove that paresis and tabes were or were not syphilis. Fournier named them parasyphilis and for many years we spoke of tertiary syphilis and parasyphilis. Primary, secondary, tertiary, parasyphilis, such was the sequence of events. Now, thanks to modern research, we know that all those stages are syphilis and the protean character of the disease is brought more sharply to our eyes.

Tabes dorsalis and general paresis are now recognized as being due to the same cause which produces a primary ulcer, a constitutional rash of multiple character, visceral and bone gummata, degeneration of nerve cells and conducting pathways. The unity of all the syphilitic processes has been amply demonstrated and with this fundamental demonstration has come a great change in therapy.

Stimulated by the spirochetal nature of syphilis Ehrlich and his co-workers prepared an arsenic compound, di-methyl diamido arsenobenzol, known as salvarsan. Later they prepared a less toxic, more easily soluble substance which they named neo-salvarsan. In spite of the work done in the administration of these drugs we are yet without a uniform method of administration. The num-

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ber of doses, size of doses, intervals between doses have still to be worked out in order to obtain the best and most consistent results.

Tabes and paresis are serious diseases, the most serious of the syphilitic lesions. Fortunate is the person who has a profuse rash and severe constitutional secondary manifestations. It is shown by White, among others, "that those who suffer most from cutaneous syphilis are spared the fatal consequences of the disease and, conversely, that the victims of syphilis of the brain and cord perhaps unfortunately escape the earlier cutaneous accidents of the malady." Nichols as a result of his studies believes that the spirochetae localize during the early septicemia and probably do not localize in the later stages. He has found several strains capable of producing specific effects which he believes are permanent variations.

Some believe that at least 60% of all syphilitics in the secondary stage have demonstrable changes in the spinal fluid. We cannot agree with this as in a series at the Milwauke County Hospital we have found less than 10%.

We have much to learn of the cerebro-spinal fluid. Mott believes that the cerebro-spinal fluid is the lymph of the central nervous system. It conveys nutriment, medication and infection. According to Weed, the most recent investigator, the fluid is secreted by the choroid plexuses and by the perivascular systems of the nervous tissues. "The chief method of return of cerebro-spnial fluid to the general circulation is by a process of filtration through arachnoid villi into the great sinuses. A very small amount is returned by the lymphatic system." Also according to Weed absorption from the cranial subarachnoid space is much more rapid and much greater in amount than from the spinal portion. Flexner and Amoss showed that in the case of the poliomyelitis injected intravenously, the plexuses allowed none to go through until after 72 hours. The barrier was then broken and the virus appeared in the spinal fluid.

There are few or no drugs present in the circulating blood which cross the barrier of the choroid plexuses. Potassium iodid, mercury, salvarsan are held back and only when the body is overwhelmed with mercury and salvarsan does some get through into the cerebro-spinal fluid. It has been suggested that this fact accounts for the cases of tabes and paresis in persons treated years ago by small doses of mercury and iodide of potassium.

Stewart holds that however much salvarsan and mercury are given intravenously "those nerve cells and nerve fibers which are being destroyed directly by the syphilitic organism and its toxin intrenched behind the pericellular and perivascular lymph spaces continue to decay."

Collins goes so far as to maintain that potassium iodid is one of the fetiches of medicine. For six years he has not given a grain to cases at the large Neurological Institute in New York.

The question was how to get salvarsan into the central nervous system. Salvarsan is fearfully toxic when introduced into the spinal meninges. Swift and Ellis found that in monkeys it increased the cell count, produced hemorrhages at the point of injection and in larger doses, death. They developed a method, now widely known, of introducing salvarsanized serum diluted with normal salt solution into the meninges. They found that the serum from blood drawn an hour after an intravenous injection of salvarsan inhibited the growth of spirochetae pallida in culture. In 1912 they reported a series of cases of cerebro-spinal syphilis, tabes and paresis some of which showed marked improvement. They claimed that with proper technique there should be no dangers. Others have used their method or modifications of it, more or less successfully. Lorenz using this method had alarming symptoms in five cases with two deaths which he thought attributable to the method. McCaskey thinks one hour is too long. He takes blood twenty minutes after injection. Fordyce obtains serum and adds salvarsan to it. Pilsbury's modification is to defibrinate the blood drawn after an hour, dilute it with normal salt solution and put it in an ice box over night, then centrifuge the serum. All the writers speak of the intense toxicity of the hemoglobin. The serum must be absolutely clear. In all I have been able to collect 160 cases from the literature treated by the original Swift-Ellis method or modification of it.

The general impression is that the cases of cerebro-spinal syphilis derive most benefit, the cases of tabes next, and the tabo-paresis and paresis cases little, if any, benefit from the treatment. Some give a treatment every week, some every two weeks. Collins reported recently 200 cases of cerebro-spinal syphilis, tabes and paresis treated by intravenous salvarsan alone. Improvement was noted both clinically and serologically in a number of cases. Brem also treats

his cases with salvarsan intravenously in doses which in occasional cases have been almost unbelievably large. He controls his treatment with the serobiologic reactions. However, the general opinion is that patients improve better when given treatment both intravenously and intraspinously. The amount of salvarsan or neosalvarsan in 10 c.c. of blood one hour after intravenous injection must be very little. If we leave out of account entirely the question of absorption by the tissue cells and suppose that all the salvarsan is retained in the blood serum (none in the cells) we find that 0.6 gm. diluted with 6000 c.c. (1/13 body weight of person weighing 156 lbs.) gives 1 mg. in 10 c.c. blood.

There seemed to be three objections to the Swift-Ellis method: (1) the questionable amount of salvarsan injected (one was working in the dark, so to speak), (2) the very elaborate technic, and (3) the large quantity of fluid injected, 30 c.c.-40 c.c. as a rule. I had found that the mere puncture and withdrawal of 8-10 c.c. of fluid occasionally caused violent headache and vomiting lasting for two days to two weeks. Further I found (July, 1913) that salvarsan, in doses of .01 gm. in rabbits produced paralysis from which they recovered only to have it return later. Dogs were affected in much the same way by doses of .06 gm. Patients were at first injected with .0004 mg. salvarsan diluted with salt solution. This was soon given up and neosalvarsan substituted on account of its lesser toxicity, and the spinal fluid itself used to dilute the quantity 2-4 mg. of the drug in 1 c.c. normal salt.

The method which I have been using now for about a year is as follows: 0.9 gm. neosalvarsan is dissolved in 18 c.c. of 0.5% saline solution. One c.c. of this is diluted with 9 c.c. of the saline, then 4 c.c. of this dilution is further diluted with 6 c.c. of saline. One c.c. of the last dilution equals 2 mg. neosalvarsan.

The 17 c.c. neosalvarsan dilution are injected directly into a vein with a syringe. The spinal puncture is made with a needle to which a 10 c.c. Record syringe can be fitted. One or two c.c. of the dilution above is drawn into the syringe (2-4 mg.). After enough spinal fluid is obtained for tests, the syringe containing the diluted drug is attached and slowly filled with spinal fluid. After a minute or two it is slowly injected back into the spinal meninges. The dilution is thus made in the syringe, the drug is mixed with the fluid before injection and the temperature of the injected material is practically identical with that of the fluid. Shock is obviated and contamination avoided.

While this work was being done Ravaut in France developed practically the same method except that he gave as high as 12 mg. and diluted the neosalvarsan with distilled water. This was injected intrameningeally. Later he used spinal fluid much in the way described by me above.

Wile dissolves 0.3 gm. neosalvarsan in 5 c.c. distilled water. Each drop contains 3 mg. He gives from one to four drops using a specially made syringe. He now follows Ravaut's method. Weygandt has recently injected into monkeys by lumbar puncture as much as 45 mg. neosalvarsan. They showed no symptoms and even microscopically no changes were demonstrated. It would seem then that the fears expressed by Marinesco of the dangers incident to the administration of neosalvarsan intrameningeally were probably not altogether due to neosalvarsan.

In my series, which I regret to say is not large, two deaths have occurred during the course of treatment. In both we were fortunate enough to obtain autopsies. One, J. R., admitted Feb. 3, 1914, was a case of cerebrospinal syphilis in a man 49 years old. He was irrational, so no history could be obtained. There were right-sided facial paralysis and paraplegia, unequal Argyl-Robertson pupils, active knee jerks. He had several attacks of convulsions with cyanosis, apnoea and bradycardia during the first week in hospital. He was thought to be on the point of death every time. W. R., blood positive; spinal fluid W. R. positive to .4 and 1 c.c., 30 cells per cu. mm., positive globulin.

Feb. 10 he was given .9 gm. neosalvarsan intravenously and .6 mg. intraspinously (diluted with spinal fluid). He vomited a few minutes after the injections.

Feb. 17. .8 gm. intravenously, .6 mg. intraspinously. Again vomited. Scarcely conscious.

Feb. 26. His condition seemed much improved. The facial paralysis had almost disappeared, he could move the facial muscles. He walked around. .6 gm. intravenously, .6 mg. intraspinously.

Mar. 3. He was not so well past day. Given .45 gm. intravenously. No intraspinous treatment.

During the night he had numerous convulsive attacks quite like those he had had before treatment.

He was better and worse until Mar. 17 when he developed coma and died on Mar. 20.

Only the brain and spinal cord were removed.

On removing the calvarium the dura mater is firmly adherent to the anterior portion of both frontal lobes, particularly the left. There the lobe beneath the adhesions is softened for an area about 3 cm. in diameter. The cord is of uniform consistency. In the lower third there are ecchymoses between the cord and the meninges. In the light of the history and autopsy findings and the length of time which elapsed between the last intraspinous injection and death, we do not believe that the intraspinous injections had anything to do with his death. The case was a hopeless one from the start.

The second case, C. de S., admitted Jan. 26, 1914, aged 27, complained of severe headache at base of skull with tingling and numbness in feet and ankles. Contracted chancre a year previous. Took some internal treatment. Six months and two months ago had a similar train of symptoms. For almost a year off and on has had violent headaches. Recently he has been getting stupid, dull of comprehension, sits around, talks only when spoken to and then does not always answer intelligently. Can write his name with difficulty, some tremor shown in letters. Pupils slightly dilated react to light and accommodation; no ptosis, nystagmus, palsies. He talks with thick voice, sort of scanning speech. Tongue protrudes in midline. Left knee jerk barely obtained, right absent. No Romberg sign, no voluntary tremor, no spasticity in gait. Walks deliberately and slowly. Sensation generally dulled, especially delayed in lower legs. W. R. blood positive; spinal fluid .4 and 1 c.c. positive, 25 cells, globulin negative. The fluid spurted out under considerable pressure.

Feb. 3. 0.9 gm. neosalvarsan intravenously, 0.6 mg. intraspinously. No reaction following treatment.

Feb. 10. Same treatment. Mentally he seems brighter. Spinal fluid .4 and 1 c.c. positive.

Feb. 17. 1.1 gm. neosalvarsan intravenously, 1.2 mg. intraspinously.

Feb. 26. 0.9 gm. neosalvarsan intravenously, 1.2 mg. intraspinously.

Spinal fluid 5 cells globulin negative, W. R. ++, W. R. blood ++.

For the next month he was given 8 intramuscular injections of 15 m. of 10% suspension of salicylate of mercury.

He seemed about the same. No initiative, sat around all day and only seemed interested when meal time came around.

Mar. 31. 0.9 neosalvarsan intravenously, 4 mg. intraspinously.

Spinal fluid 2 cells, globulin ++, W. R. .4 negative, 1 c.c. ++.

April 7. 0.7 gm. intravenously, 6 mg. intraspinously.

He had no symptoms as usual following the treatment; he was up and around next day. On the 9th he vomited several times and had hiccups.

April 13. Spinal fluid W. R. .4 and 1 c.c. ++.

April 14. He was still in bed unable to get up. There were involuntary urination and defecation. Vomits everything. Has no complaint. Several days ago tried to get up but fell over. Mentally he is as usual. Retention of urine occurred on April 15th. He had no convulsions; fever began April 14, he gradually sank and died April 19, the last temperature 102.5° six hours before death.

The urine which had been normal showed on April 16 a trace of albumin, red blood cells and coarsely granular casts.

Autopsy; Apr. 20. The body is that of a large man. There is a small amount of blood tinged fluid in the abdominal cavity. Some bloody fluid is in both pleural cavities, there are congestion and edema of lungs. There are fibrous adhesions in both pleurae and a healed tuberculous lesion at the left apex. The pericardium contains a slight excess of blood-stained fluid. The heart is small, soft, flabby and brownish. It shows cloudy swelling. The liver is enlarged, friable and the lobules are swollen. The kidneys show acute parenchymatous degeneration.

The dura is adherent to the frontal lobes of the brain. In both hemispheres, particularly the left there is extensive softening and degeneration leading to irregular small cavities. These are on the outer surface of the basal nuclei particularly the caudate nuclei and extend into the gray matter of the frontal lobes at their posterior portions. There is slight hemorrhage around the lower portion of the cord above the seat of puncture and the membranes surrounding it show scattered small ecchymoses. The cord itself shows no macrascopic changes at various levels. Sections stained with H. & E. show only perivascular round cell infiltration. This was a case of syphilitic central disease of most extensive type. The onset was acute, the virus evidently attacked the nervous system

shortly after infection. Eight days before the beginning of the end he had had one intraspinous injection of 6 mg. neosalvarsan and had borne it without one symptom. Possibly the end might have been hastened by the intraspinous injection but I cannot see that it was the actual cause of his death.

The death was evidently due to arsenical poisoning in a man whose nervous tissue was extensively involved. A death similar to this was reported (Ehrlich's book) after an intramuscular injection of salvarsan in a paretic.

I have treated both intravenously and intraspinously only eleven patients, all men. Some selection of cases was made. Twice the selections were poorly judged. There were two paretics, one dead five months after treatment, one still living a year after but recently had convulsive seizures similar to those he has had before treatment; two tabo-paretics, both living, both markedly improved; five tabetics, two wonderfully improved, one slightly improved, one no improvement, one too recent to judge of effect of treatment.

To these patients 41 intraspinous injections were given, varying in number from two to eight.

Almost invariably there were pains in the legs following the intraspinous injection of either salvarsan or neosalvarsan even when so little as .0002 mg. salvarsan was given. Occasionally the pains were severe enough to require morphine. As a rule they did not last more than a few hours. A not infrequent result of spinal puncture is violent headache accompanied at times by nausea and vomiting. This occurs independently of treatment and in my experience has been worse in those whose spinal fluids were absolutely negative to all tests.

It is exceedingly difficult to evaluate a method of treatment in a disease, or series of manifestations of a disease, when it is so common to have remissions. Patients with tabes and paresis are known to have periods of exacerbation and periods of remission following the older methods of treatment. The principle upon which the new methods of treatment are based seem to have a rational foundation lacking in the older procedures. It is this change in viewpoint which seems to offer to sufferers from the cerebrospinal ravages of syphilis a more hopeful outlook for marked permanent improvement.

To summarize briefly the contents of the paper: Tabes Dorsalis and Paresis are syphilis of the nervous system. A new method is proposed to introduce neosalvarsan (or salvarsan) into the spinal meninges. This method has the advantages of (1) accurate dosage, (2) reduction of shock, (3) lessened danger of contamination, (4) simplicity of administration.

A combination of intravenous and intraspinous administration of neosalvarsan (or salvarsan) seems to be the most rational method of treatment of cerebrospinal syphilis.

(From the Medical Clinic of the Milwaukee County Hospital.)

SINUSITIS.*

BY J. A. L. BRADFIELD, M. D.,

LA CROSSE.

Mr. President and Gentlemen of the La Crosse County Medical Society: To present the subject of the evening to you in a scientific manner would require hours of time, and it is my purpose, as clearly as possible in a short paper, to set before you the essential principles governing the etiology, diagnosis and treatment of sinusitis.

By sinusitis, from a rhinological view, is meant an inflammation of the openings or sinuses connected with the nasal cavities, namely: the superior maxillary antra, frontal sinuses, ethmoidal cells, sphenoidal antra, middle auditory meati and mastoid antra and cells.

Sinusitis may be catarrhal or purulent, and may again be divided into acute, subacute or chronic, according to the stage of the disease, all cases being acute in the beginning. All the sinuses have relatively small openings, and in most of them so situated that it is not easy for the cavity to drain when filled with fluid while the head is in a natural position. Some of the cells, especially the ethmoidal and mastoidal, have no direct openings with neighbors or antra near them.

Etiology: Sinusitis has three primary causes, hereditary, mechanical and infective.

The orifices of the antra of Highmore, frontal sinuses, ethmoidal cells and sphenoidal antra are all placed so near the middle turbinated bones that any enlargement of these bones, or blocking of the region, may cause a retention of secretion in any or all of the cavities which eventually become infected, resulting in the most serious purulent in-

*Read before the La Crosse County Medical Society, Feb. 4, 1915.

fections. Hence a circle with the center at the antral openings is well termed the vicious circle and when this region is healthy we seldom need spend time looking for diseases of these cavities. While the middle auditory meatus and the mastoid cavity are not so directly connected through the eustachian tube, the connection is sufficiently close to justify their being considered together.

As blocking in the vicious circle and vault of the pharynx is the primary cause of the majority of cases of sinusitis, I shall first consider these locations and the cause of obstruction. I feel safe in saying that today all of our younger, and the progressive older men of our profession recognize the importance of the hyperplasia and hypertrophy of Luschka's tonsil, which we term "adenoids", and either operate themselves or refer these cases for operation, when ordinary symptoms in childhood indicate it. Yet it may be well to review the causes, symptoms and results. All cases of myxedema have adenoids and enlarged tonsils, but the common cause of adenoids is what may be termed a catarrhal conditional or a predisposing tendency to chronic inflammation of the lymphatic tissues of the throat.

1st, the child when quite young breathes through the mouth, is restless, complains of ear-ache, or has acute suppuration of the middle ear, and often has a hacking cough. Now is the time to operate. Remove the adenoids thoroughly, tonsils also if needed, and you have performed one of the greatest blessings you will ever have the opportunity to do for that individual.

2nd, no operation. The lower jaw recedes and the teeth develop unevenly, from lack of proper nasal respiration the superior maxillary bones do not develop, the palate becomes highly arched, the septum deflects to one side and linear spurs appear to one side, low anteriorly, and back superiorly, blocking one or both of the vicious circles. The turbinated bones, though only normally developed, almost fill the nasal cavities, not allowing free nasal breathing, and although the adenoids are now removed the child still keeps his mouth open and gets much of his breath in that way.

To be successful now not only the adenoids and tonsils must be removed, but the dentist should be consulted and his skill invoked in correcting the dental and maxillary deformities, thus widening the nares to a normal condition. When this cannot be done enough of the middle turbinated bodies should be removed to allow of free breathing through the nose, when that cavity will develop and much of the damage so far produced will be repaired. Here, however, is where delicate work is required, and no one is justified in attempting the work till he is able to see and know what he does. Once and for all let me emphasize the principle, "Always strive to produce normal nasal cavities and never mutilate unless absolutely necessary."

Removal of adenoids at this stage, without the nasal operation, will be of much benefit and often save the hearing for years, at least; but great general debility and deafness from chronic catarrhal inflammation may result in after life from lack of proper dental treatment or neglect of the nasal operation at this time.

3rd. All cases without the adenoid and nasal operations are in great danger of death in cases of diphtheria and scarlet fever, or of serious suppurating otitis media and deafness, not only from the former diseases, but from measles and typhoid fever, as well as suppurating inflammation of all the cavities, meningitis and intra-cranial abscesses.

4th. To have healthy ears, throat and lungs requires free nasal passage of air through the nose. In normal conditions there is about one quart of fluid secreted by the normal mucous membrane in 24 hours. If the breath does not pass over this membrane it must be warmed and get its moisture from other membranes, hence the pharynx, larynx and bronchial tubes suffer. In inhalation the air passes from the anterior nares up through the middle and superior meati and down into the naso-pharynx, while in exhalation the air strikes the vault of the pharynx and is deflected forward through the lower and middle meati. Hence one may have a free lower meatus and still have markedly difficult inhalation and complain of a stuffy feeling in the head. Such people have what we call negative pressure of the sinuses during inhalation, which in particular causes irritation and hyperplasia of the middle turbinated regions, chronic irritation and chronic catarrhal otitis media, while an obstructed exhalation has great tendency to hypertrophy of the lower turbinated region.

From pressure in the nose the local nervous system becomes over-sensitive, the vascular system loses its tonicity and we get such reflex symptoms as vasomotor rhinitis, hay fever, and vasomotor bronchitis and asthma. The simpler form of this condition is turgescent or intumescent rhinitis

One minute one nostril may be free and the other closed, and the next minute the reverse being the case, or as is quite common, the side on which one lies is blocked while the other side remains free and reversing immediately on changing positions. This condition sooner or later causes a chronic sinusitis, the localization of which will depend largely on what part of the nasal cavity is most affected. Simple chronic catarrhal sinusitis is much more common than the suppurative variety, and it is from this a very large per cent. of chronic catarrhal deafness has its origin.

For the purpose of diagnosis and treatment we shall consider the acute and chronic stages only. Acute catarrhal sinusitis is most often encountered during attacks of acute coryza, rhinitis and nasopharyngitis, while less often occurring during scarlet fever, diphtheria, measles and typhoid fever. In the former it is generally an acute serous inflammation, while in the latter it is usually purulent. Both are characterized by severe local pain, headache and general lassitude, chills and fever, all of which are more severe in the purulent variety. Each location has its peculiar symptoms: antrum of Highmore, superior maxillary and teeth; frontal sinuses and ethmoidal cells, forehead and eyes; sphenoidal, back of eyes and vertex; middle meatus and mastoid, side of head and mastoid region. Marked edema is a great indication, while much edema and pus exuding from natural openings are pathognomonic of purulent or suppurating sinusitis. Each cavity has its peculiar phenomena.

The antrum of Highmore may be infected from abscess of the aveolus and especially from roots of teeth passing into the cavity, and thus be entirely different from the other cavities. In my early experience I was led to believe this responsible for a large per cent. of suppuration of the antrum of Highmore. I am now of the opinion that only a very small per cent. have such origin.

Most cases of acute serous sinusitis drain through the natural openings, and as resolution from acute coryza takes place, healing and perfect resolution occur. Occasionally where the openings are very small, and more especially in the antrum of Highmore, the cavity may remain aseptic for months without becoming infected, but as a rule sepsis takes place and unless drained artificially chronic suppurative sinusitis develops. The frontal sinuses, from the position of their natural openings, are most likely to make spontaneous recoveries.

Acute serous otitis media is also an exception. Here the tympanic membrane is so frail that it may rupture from pressure necrosis before drainage takes place in a congested eustachian tube, and unless great care is taken infection occurs, when a simple inflammation is tranformed into a purulent and much more serious one.

Transillumination helps very much in differentiating simple serous sinusitis from purulent forms in the antrum of Highmore, frontal sinuses and mastoid antrum and cells, but it must not be relied on, as many cases of marked purulent sinusitis are perfectly translucent. Translucency is always relative and where only one side is involved it is easy to differentiate by comparing the two sides. Usually in health the light shines very clearly through the infraorbital space and when the eyes are open the red reflex from the fundus is plainly seen, while the cavities when filled with pus show the bones all alike and the pupil reflex absent. Examination in the dark always being necessary, throwing a dark shawl over the heads of the examined and examiner is very effective when a dark room is not available. A count of white blood corpuscles is very valuable in making the diagnosis. Vacuum process, by which the air is drawn from the nasal cavities causing the pus to flow from the sinuses, is valuable but sometimes it is too hard to determine whether the secretion is from the antrum of Highmore, frontal sinuses, ethmoidal cells or sphenoidal antra. Resolution not taking place in acute sinusitis the subacute stage supervenes during which time resolution may yet take place, if not chronic sinusitis develops.

Acute purulent sinusitis occurs during scarlatina, diphtheria and typhoid fever, is always severe and demands the greatest of care. The natural tendency of acute sinusitis is to resolution, excepting when a nasal obstruction exists, and here we find the home where sinusitis revels. And when we take into consideration the chronic catarrhal otitis media alone resulting therefrom, I am inclined to think this variety more dangerous than the chronic purulent sinusitis. Here we find the edematous condition of the vicious circle: headache, which is usually worse in the morning; pain in and behind the eyes, (and in fact most of the cases I see consult me for asthenopia); dizziness especially on stooping over. In case of frontal sinusitis the maxillary process of the supraorbital bone is very

tender on pressure. The differential diagnosis from supraorbital neuralgia may be made by pressure over the supraorbital foramen, if tender this indicates supraorbital neuralgia, which may be primary or concomitant with frontal sinusitis. But more reliance should be placed on the condition of the middle turbinateds and the septum. If the middle turbinated is large and blocking this region or if pressing into the ethmoidal region closely there is strong evidence of chronic catarrhal sinusitis. Chronic catarrhal otitis media is easily diagnosed by the condition of hearing, bone and air conditions, and condition of tympanic membrane.

Chronic purulent sinusitis may quite readily be diagnosed by the condition of the vicious circle and external meati. Pus coming directly from the opening is pathognomonic. Myxoma in the middle meatus strongly suggests involvement of the antrum of Highmore, high in anterior vault of nasal cavity, frontal sinuses, middle of the cavity, ethmoidal cells, and in posterior nares, sphenoidal sinuses. Foul odor from the nose, excepting in atrophic rhinitis, is pathognomonic of suppurative sinusitis, and it is my opinion that most of the cases of atrophic rhinitis have their source in necrosing ethmoiditis.

Again we find cases of severe purulent inflammation of the posterior ethmoidal cells where the only symptom is failing vision in one or both eyes.

When in doubt as to purulent inflammation of the antrum of Highmore a small cannula is passed through the inner wall and air forced through will usually force pus through the natural opening in the middle meatus, but where it is thick it will not always do so, and the cavity should be irrigated freely with a sterile alkaline solution. One source of error should be remembered. Pus from the root of a tooth may burrow under the periosteum at the bottom of the antrum until the cavity is nearly full and yet not be shown by passing the cannula through inner wall.

Necrosed bone at orifices of frontal sinuses, ethmoidal cells and sphenoidal antra is pathognomonic of suppuration and always indicates opening of these cavities. Chronic suppuration of middle auditory meatus and mastoid antrum and cells is usually diagnosed by pus and the condition of the external meatus and perforation in tympanum. However, the mastoid antrum and cells are sometimes found full of pus and the cells broken down with no perforation or signs in the tympanic membrane. Here pain and tenderness are usually present and the difference in translucency of the two sides suffices to make the diagnosis.

Treatment: Many, in fact most cases of sinusitis are preventable by early constitutional and local treatment. Put the patient to bed and keep him quiet. Give a nutritious and easily digested diet. Internally, calomel, opium, belladonna, aconite, camphor, salicylates, quinine, etc., as best suited to the case. Attention to elimination of skin, bowels and kidneys is important. Leukodescent light has been in great favor. I have found great satisfaction from heat of electric light with blue globe used in the instrument made by the Camp Co. of La Crosse, called the Radio Bell, and it will be a difficult thing to convince my patients who have used it that it lacks virtue in these inflammatory troubles.

Locally the great principal is drainage. In the acute stages local congestion should be reduced and prevented when possible by adrenaline in weak solution sprayed into the nose often enough to keep up the effect. The addition of cocaine, eucaine or novacaine has a pleasant effect in reducing pain. I prefer the cocaine where no contraindication exists, but if used it should never be put in the hands of the patient, nor used until there is danger of forming the habit. This followed by a spray of 10% antipyrine very much prolongs the effect, but if used too often it becomes irritating. Occasionally cleansing the nose with warm Dobell's solution is very pleasant, but patient should not go out into the cold air for some time afterwards. One per cent. solution of camphor and menthol in oily base is excellent. This treatment contracts the intumescence, keeps the ostii of sinuses open, allows drainage, and resolution takes place without any serious results. The acute otitis media, however, is different. Here the counter irritation and antiseptic effect of a 12½% solution of carbolic acid in glycerine put in the external meatus warm and kept there by plug of cotton, so placed as to be tight and stay in place is almost a specific. However, if late in applying and the middle meatus is filled with serum and the tympanum bulges to any great extent a free paracentesis should always be made under strict asepsis which must be followed until healing takes place. We should remember, however, if acute otitis media is once purulent perforation is inevitable and the sooner paracentesis is made the better, as many cases of mastoiditis will be pre-

vented by early free incision carried well up to the attic. Above all, here is the place to remember the principle of drainage and where I am sorry to say I find more errors of better surgeons than in any other department of surgery with which I am acquainted. It were better that no syringe were ever made, as far as usefulness in ear troubles is concerned, than that one should be used in acute otitis media. They not only do no good but often force the septic fluids into the attic and mastoid antrum and greatly widen the field of infection. If one wants a mastoidectomy just use freely the syringe in acute suppurating otitis media. I hope the medical profession will soon wake up to the fact that the use of the syringe in acute otitis media is either the result of ignorance or is wilful negligence. The ideal drainage is gauze, which should be placed loosely in the meatus, but must reach the perforation itself and draw the fluid out of the meatus as fast as secreted and never allow it to accumulate in middle ear or external meatus. Practically I can get much better results with the ordinary nurse by using simple absorbent cotton drain. This is rolled loosely on a toothpick and inserted loosely into the external meatus and allowed to remain until soaked for a distance of one-fourth to one-half inch, it is then removed and replaced by a new one and the process kept up till healing takes place, often requiring changing as often as every fifteen minutes the first few days.

When the antrum of Highmore has become purulent from alveolar abscess, treatment of alveolar necrosis and drainage through the opening is proper. When from nasal infection trephining through the lower meatus of the inner wall making opening large enough so that it will remain patulous is the best treatment. Often a portion of the lower tubinated must be removed but never more than necessary, unless there is hypertrophy, which is obstructive to breathing and needs removal. The cavities may be washed out as needed with an alkaline, antiseptic solution and antiseptics such as argyrol or ichthyol injected until healed, but often no further treatment than ordinary nasal cleansing is needed.

Acute sepsis in the frontal sinuses may drain and recover spontaneously, but will be greatly helped by the ischemic treatment of the vicious circle. When pain becomes very severe and there is evidence of great pressure, the anterior end of the middle turbinated should be removed and the frontal sinuses opened with curet if possible. If not and the superior palpebrae and orbital contents begin to swell, the sinuses should be opened externally and the natural opening into the nose enlarged, drainage inserted, and the external opening closed. Lavage and drainage should then be continued through the nose until healed.

Acute suppuration of the ethmoidal cells and sphenoidal sinuses is also greatly helped by the ischemic treatment and may heal spontaneously, but when marked suppuration is present it is best to remove the middle turbinated bone and open the cells and natural opening of the sphenoidal antrum so as to assure good drainage.

Acute suppurating mastoiditis often drains freely through the middle meatus and simple drainage is all that is needed for perfect resolution. But when there is evidence of pressure as indicated by pain, tenderness and edema of mastoid, let me plead for an early simple mastoidectomy with simple drainage by rubber tube or cigarette drain without injury to the lining membrane of the cavity.

The treatment of chronic catarrhal sinusitis should be the removal of all abnormalities which interfere with normal breathing and cause pressure on parts which should be free, or which interfere with normal drainage of the accessory sinuses. Where the septum is deflected to one or both sides the submucous dissection of all the abnormal part of the septum should be made. This is one of the greatest achievements of modern surgery, and when properly performed gives absolutely perfect results with no bad effects whatever. When there are long standing ulcers or erosions of the septum on one or both sides it is sometimes impossible to prevent breaking down and perforation, but this is far better than obstructed breathing or sinusitis and deafness, which often results from the obstruction. All people with deflected septums causing obstruction in breathing should be warned of the great danger and almost sure loss of hearing if not corrected. Large spurs interfering with free breathing on otherwise straight septa are best removed submucously. There is a class of marked, thin, linear spurs where it may still be considered good surgery to remove them with saw. Portions of hypertrophied and misplaced turbinateds should be removed so as to give free normal breathing and allow free drainage of the sinuses. Again the principle of making and leaving a perfectly normal nasal cavity should be observed.

There is a chronic catarrhal otitis media caused

by some poison in the system, which we do not yet understand, which results in hyperostosis of the middle meatus and inner ear and results in almost, if not perfect deafness, for which there is no known successful treatment, and very few of the cases are ever helped. Heredity and probably a lithemic or gouty diathesis are important factors. This variety should not be confounded with the simple chronic catarrhal variety, which is caused by the irritation from defective breathing and systemic poisoning from absorption in septic sinusitis. This last variety may be prevented by early surgery, and the process may even be stayed after hearing is very bad, by proper nasal surgery, and the aurist is now able to be of great benefit in this class of cases where formerly we were able to do but little if anything for our patients.

The modern physician need not be told that chronic suppurating sinusitis is a focus from which many diseases have their origin and that no person can have it without great danger to the general health, if not life itself. If we must carry pus in any of the sinuses it had better be in the antrum of Highmore. The antra of Highmore, frontal sinuses, ethmoidal cells and ethmoidal antra are so closely related that it is common to find them all, on one or both sides of the head, affected at the same time. When the infection is mild and the mucous lining of the sinuses not seriously affected all that is necessary is to drain as in acute suppurating sinusitis. But when the mucous lining has become involved in polypoid degeneration and the bony walls necrosed the opening must be made large and free, the wall curetted and kept cleansed with antiseptic till granulation has taken place. All polypi should be removed. If the antrum of Highmore is involved, enough of the lower turbinated must be removed to allow of free opening, curetting and drainage of cavities. If it is the frontal sinus, the anterior end of the middle turbinated must be removed and free enlargement of the natural opening made. At times part of the frontal sinus is separated by plates of bone and cannot be reached in this way, when the radical or external operation should be done. When the ethmoidal cells and sphenoidal antra are necrotic the middle turbinateds should be removed, the ethmoidal cells broken down and curetted, the sphenoidal sinuses opened through natural openings and the anterior wall removed and necrosed bone curetted. No one should attempt the intranasal operation of frontal sinuses, ethmoidal cells or sphenoidal antra who is not perfectly familiar with the anatomy of these cavities and cannot see what he is doing.

Chronic suppurating otitis media usually means necrosis of attic of mastoid antra or cells. If polypi or granulations are present at the perforation they should be removed and the necrotic tissue curetted, the cavity washed with a tympanum syringe and the 12½% carbolic-glycerine instilled and kept in ear for several hours once a day, being best put in at bed-time, left in over night, and ear drained as needed during the day. I have seen cases where there had been much pus with a very foul odor for many years heal in a few days with this treatment. If the case does not improve markedly in a short time it is useless to procrastinate. If there is evidence of the trouble being necrosis of ossicles and attic a free myringo-ossiculectomy may be made, the cavity curetted, packed and drained. Should there not be perfect healing now or in case of positive necrosis of mastoid antrum and cells the radical mastoidectomy should be done at once and the three cavities made into one to save the danger of systemic sepsis, sinus thrombosis, meningitis or cerebral abscess.

NASAL ACCESSORY SINUS INFECTION IN RELATION TO GENERAL DISEASE.*

BY W. E. GROVE, M. D.,

MILWAUKEE.

Our knowledge of the focal infections of the body in their relation to general disease is now wide spread. We know that with certain general diseases a focal infection is almost invariably the cause and it must be discovered and taken care of before any permanent relief can be expected in the original condition. It is only with one group of these focal infections, those of the accessory sinuses of the nose, that this paper has to deal.

The accessory sinuses of the nose are peculiarly adapted to act as reservoirs for the purulent infections, which are evidenced not only by their local symptoms but also by their relation to contiguous structures and to the body in general.

By nasal accessory sinuses we refer, of course, to the maxillary, frontal and sphenoidal sinuses and the ethmoid labyrinth. The demonstration of

*Read before the Milwaukee Oto-Ophthalmic Society, Feb. 16, 1915.

infection in the frontal and maxillary sinuses, is, as a rule, comparatively easy and simple.

The diagnosis of infection, particularly chronic infection, in the ethmoid labyrinth and sphenoid sinus, is by no means easy and offers considerable difficulty in some cases. In these sinuses a low grade chronic infection may remain for years almost concealed and in its diagnosis we must employ all the methods of diagnosis at our disposal, viz., history, local examination, transillumination, X-ray and suction. In most cases of chronic infection of these sinuses a single method of examination may entirely fail to localize the trouble and we must combine all the methods at our disposal to elicit the information desired.

One point which I wish to emphasize is, that these sinuses are very *frequently* infected. In fact, with every acute cold we have some involvement of some or all of the sinuses. This clears up as a rule, with the coryza, but in a certain percentage of cases, instead of clearing up it passes into a semi-quiescent chronic stage which may later from time to time become aggravated by acute exacerbations, and these usually pass muster as frequent colds.

Of all the sinuses I have found the ethmoids to be the most frequent offenders in this regard.

The acute and chronic infections of the sinuses play the same role in regard to such general diseases as acute articular rheumatism, acute endocarditis, acute nephritis and all sorts of so-called neuritides and neuralgias, as do similar infections of the tonsils and teeth, already discussed.

There was a time in the first blush of our knowledge of the inter-connection of these diseases with focal infections when we invariably looked to the tonsil for the solution of the problem, and the slaughter of innocent tonsils was undoubtedly great. Then we turned our attention to the teeth, nasal accessory sinuses and other portals of entry in the body and realized that we must thoroughly search all these places for the particular focus in each individual case.

In addition to the relation of these sinus infections to the above mentioned general diseases where we must assume the connection to be by reason of the absorption of toxins or micro-organisms from the focus and their transmission by the blood stream, we find the sinus infections related to and the direct cause of a number of other conditions, which may, in a way, be regarded as symptoms or complications of the sinus infection but which are often regarded and treated as separate and distinct conditions by the uninformed.

Headache is very frequently present in chronic sinus suppurations. It may, however, be absent and its mere absence in any individual case should not lead one to exclude sinus trouble. Its presence, on the other hand, will often lead to the discovery of the trouble. In the chronic form of the disease it is very inconstant in character, the violence of the pain having no apparent relation to the severity of the disease. We find it in about 100% of the acute cases and in about 50% of the chronic cases, and its presence or absence is almost entirely a question of adequate drainage. These headaches are usually more severe during the morning hours and are usually accentuated by stooping, jarring, sudden movements, and by straining at stool. Although there are certain regions of the head where the pain may be most severe in affections of particular sinuses, still we cannot show any definite and regular localization of the headaches of chronic sinus disease.

In the chronic forms of sinus disease we frequently find associated pharyngeal disturbances. These may take the form of a more or less subacute pharyngitis lateralis or inflammation of the lateral lymphoid chains of the pharynx with the accompanying feeling of soreness and irritation in the throat. It may also be evidenced by a feeling of dryness in the throat, a pharyngitis sicca, with its accompanying atrophy of the posterior pharyngeal wall. One symptom when present in either of these conditions is very suggestive of sinus disease, particularly of the posterior series, and that is a collection of thick tenacious secretion on the posterior pharyngeal wall. This is extremely difficult to dislodge and frequently leads to retching and actual vomiting from its irritation and the efforts to dislodge it.

A chronic laryngitis, due to the constant bathing of the parts by secretion from above and caused in part, according to Skillern, by the tiring of the intrinsic muscles of the larynx due to the constant hawking and coughing in the endeavor to clear the throat of inspissated secretion, is not infrequently observed as a concomitant complication of chronic sinus suppuration. Indeed Gruenwald says, "an examination of a patient with a chronic laryngeal affection must be considered incomplete until the exact condition of the nose and nasopharynx has been thoroughly investigated."

It is a well established rule of practice among

otologists that middle ear disease is almost invariably preceded by some form of nasal or epipharyngeal disease. The nasal conditions which may cause these aural changes are either obstructive or inflammatory in character. Of the inflammatory diseases, and this applies particularly in the adult, the catarrhal and suppurative inflammations of the sinuses are by far the most important.

The continual swallowing of the secretion which gathers in the pharynx, varying from a mucoid to a putrid, purulent character, produces in a great many patients suffering from chronic sinus conditions certain gastric disturbances. These may vary from retching and vomiting, to loss of appetite, eructations of gas, and a feeling of fullness in the stomach. These symptoms may become so marked as to lead to severe disturbances in the general nutrition of the body and thus to loss of weight. Where these symptoms exist and their etiology is not perfectly clear a careful and searching examination of the sinuses, particularly the ethmoids and sphenoids, should be made.

Dizziness and vertigo may also frequently accompany chronic sinus suppuration. The dizziness may become more marked on stooping or with sudden movements of the head. The vertigo may sometimes make its appearance with the patient at rest, quietly sitting and reading. It is usually of short duration.

Psychic and intellectual disturbances may and do appear in the course of a considerable number of accessory sinus diseases. They are manifested by a disinclination for mental work, loss of power of prolonged concentration, disagreeableness, irritability, aprosexia, lack of resistance to the use of tobacco and alcohol, some of the symptoms, in fact, which belong to the great symptom complex of neurasthenia. In rare cases we even find a depression of spirit which may increase to melancholy and similar disorders. Ziem reports a severe psychosis which resulted from an antrum infection.

These mental symptoms may be easily explained by the frequent headaches, the loss of sleep and the irritation from the constant discharge of secretions from the diseased sinuses.

In addition to this last group of conditions associated with sinus infections, and in addition to the first group of diseases referred to, which are due to the direct absorption of bacteria or toxins from the focus of infection, we have still a third group of diseases which must be considered in their relation to sinus infections and these consist in a direct extension of the suppurative process to contiguous organs. Of these the two most important are the orbital contents and the cranial contents. Volumes have been written about each of these and the most that I can hope to do in a paper of this sort is to roughly indicate their interconnection.

The orbit is, as we know, separated from the sinuses of the nose by an extremely thin paper-like plate of bone. Even this is not always complete but may be lacking in certain spots or areas, a condition known as a dehiscence of the wall. In addition we have another direct connection between the orbit and the sinuses in the ethmoidal blood and lymph vessels. An infection of the orbit and its contents may result from a direct transmission of the infection by means of these vessels, or it may result in consequence of a necrosis of the thin bony partition separating the two cavities. The investigations of Birsch-Hirschfeld have shown that nearly 60% of the cases of orbital inflammation which he has analyzed were due to accessory sinus suppurations.

Keratitis, corneal ulcers, iritis, choroiditis and vitreous opacities have been attributed by various authors to sinus disease but the demonstration of the connection of these conditions to nasal trouble is not very definite and conclusive.

Probably the most important ocular complications of sinus disease are those of the retina and optic nerve.

When we bear in mind the course of the optic nerve peripheral to the chiasm before it enters the orbit and even for a short distance beyond the optic foramen, how it lies adjacent to the thin walls of the sphenoid and posterior ethmoid sinuses, in some instances imbedded within these walls and occasionally even passing directly through these cavities with no bony partition dividing, (facts which have been demonstrated beyond all question of doubt by the anatomical studies of Onodi), it is perfectly clear that the optic nerve can be seriously damaged by the infection in these sinuses.

These changes may vary from a simple compression of the nerve to a definite inflammation of its sheath and indeed of the nerve itself, with concomitant changes in the nerve head and retina. In these cases there may be no external signs of orbital inflammation, but there arise optic neuritis, neuroretinitis, retinal thrombosis and phlebitis with their accompanying diminution of vision. In

still other cases there may be no ophthalmoscopic changes but various scotomata may be discovered on examining the field of vision.

In addition to these findings accessory sinus disease may lead to palsy of the ocular muscles, exophthalmos and displacements of the eyeball, especially if it be associated with large mucoceles.

When the etiology of the above mentioned ocular and orbital conditions is in the least doubt, a searching examination of the sinuses should be instituted even if no other symptoms point to their direct involvement.

While the intracranial complications of the sinus infections are, of course, far less numerous than those arising from suppurative conditions in the middle ear and its appendages, still the appearance of meningitis and cerebral abscesses following the various sinus infections is frequent enough to force us to keep these complications continually in mind.

I have been able, in the short time of my disposal, to merely touch upon the relations of sinus infections to general disease but we can see from even this brief survey that these infections are of great importance in dealing with these general disorders.

BOOK REVIEWS

A Manual of Practical Hygiene. For students, Physicians and Health Officers. By Charles Harrington, M. D., late Professor of Hygiene in the Medical School of Harvard University. Fifth edition revised and enlarged by Mark W. Richardson, M. D., Secretary to the State Board of Health of Massachusetts, in collaboration with the following officials connected with the Massachusetts State Board of Health: W. H. Clark, Chief Chemist; X. H. Goodnough, Chief Engineer. William C. Hanson, M. D., Assistant to the Secretary; Hermann C. Lythgoe, Chief Analyst of Food and Drug Department, and George H. Martin, formerly Secretary to the Massachusetts State Board of Education. Octavo, 933 pages, with 125 engravings and 24 plates in colors and monochrome. Cloth, $5.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

This, the 5th edition of Practical Hygiene, "represents the result of collaboration between the editor and experts associated with him in the Massachusetts State Board of Health, the first such board to be established in America, and one noted for the high character of its laboratory investigations, and of its public health administration." The expert knowledge shown in various chapters, their comprehensiveness, and the citation of authoritative references, make this volume unusually interesting and meritorious, and help to elevate to a higher plane a science that in former years was given a very scant hearing.

It is impossible in the compass of a brief review to more than merely name a few of the chapters of this excellent treatise that are particularly noteworthy. Thus, one may call attention to the articles on Milk and Milk Products; on Soils; on Water, including methods of purification, water-borne diseases, examination of, etc.; Disposal of Sewage and Garbage; Administrative control of communicable diseases; Military Hygiene, etc. Of particular and unusual interest, however, are the chapter on "The Hygiene of Occupations", including a consideration of occupational diseases; a chapter on "Medical Inspection of Schools"; and one on "The Relation of Insects to Human Diseases", contributed by Prof. Theobald Smith.

It is refreshing to note the emphasis that is placed upon the futility of our present day methods of terminal disinfection in cases of contagious diseases. It were time that the proven ineffectualness of the measures now still in vogue in most cities give way to the simpler, less harsh and less costly, but equally effectual methods advocated and successfully conducted by Chapin of Providence, and already adopted by the New York City Board of Health.

A number of excellent illustrations accompany the chapter on Occupational Diseases.

The above citation of a few chapter headings gives no adequate idea of the completeness with which the various subjects are treated. The total number of topics considered is so vast that frequent reference to its pages would seem to be almost a necessity felt by every practicing physician. We can heartily endorse this volume on "Practical Hygiene" as a work of great excellence, and one that ought to find a place beside the standard textbooks on medicine and surgery in every physician's library.

Fever, its Thermotaxis and Metabolism. By Isaac Ott, A. M., M. D., Professor of Physiology Medico Chirurgical College, Philadelphia; Member of American Physiological Society; ex-President of American Neurological Association; etc. Cloth, 166 pages, 14 illustrations. Price $1.50 net. Paul B. Hoeber, publisher, 67-69 East 59th Street, New York.

The small book on Fever by Dr. Ott consists of three lectures given by him to his class in Physiology. The lectures discuss the location of the thermogenic and thermoinhibitory centers and a rather extended description of Dr. Ott's experiments with the heat production and heat loss in a patient with malaria.

The lectures are interesting but not very easy reading. After perusing the whole book one is left with the feeling that after all little has been said about fever but much about the author's own work on some associated problem. We doubt very much if this volume will prove of very wide interest. It evidently lacks the personal element given to the lectures by the presence of the lecturer upon the platform. L. M. W.

CLINICAL DIAGNOSIS. A Manual of Laboratory Methods. By James Campbell Todd, M. D., Professor of Pathology, University of Colorado. Third edition, revised and enlarged. 12mo of 585 pages with 176 text-illustrations and 13 colored plates. Philadelphia and London: W. B. Saunders Company, 1914. Cloth $2.50 net.

The third edition of Dr. Todd's Clinical Diagnosis is a most excellent hand book for students. Every section has been revised and much new matter has been added. Students of medicine should find the chapter upon the use of the microscope particularly valuable.

Into a comparatively small compass the author has compressed a mine of information upon all the various clinical diagnostic methods including the technic of the Wassermann reaction, other complement fixation methods, Abderhalden's test for pregnancy, etc.

Among the newer methods which appear in this edition are: the newly simplified Volhard method for chlorides in urine; the urease methods for urea in urine, blood and spinal fluid; the Rimini-Burnam test for formaldehyde in urine; the Weisz permanganate (chromogen) test, etc.

The book is handy in size, printed well. profusely illustrated, and should be in the hands of every medical student. L. M. W.

DIFFERENTIAL DIAGNOSIS. Presented through an Analysis of 317 cases. By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 709 pages, 254 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, $5.50; Half Morocco, $7.00.

The second volume of Dr. Cabot's Differential Diagnosis contains an analysis of 317 cases. These have to do with the following as the chief symptom: Abdominal and Other Tumors, Vertigo, Diarrhoea, Dyspepsia, Hematemesis, Glands, Blood in the Stools (Melena), Swelling of the Face, Hemoptysis, Edema of the Legs, Frequent Micturition and Polyuria, Fainting, Hoarseness, Pallor, Swelling of the Arm, Delirium, Palpitation and Arhythmia, Tremor, Ascites and Abdominal Enlargement.

The book is interesting and on the whole seems to be more readable than the first volume. The discussions which begin the various headings, are particularly valuable and denote a well balanced view point toward medicine in general. Of especial value are the prefatory remarks to the illustrative cases of dyspepsia, and of glands. Here and there are cases of intense interest, as for example case 191. The histories of many cases are so brief and the description of the physical examinations so scanty that no diagnosis could be made from them alone. They serve as data for comment which, for the most part, is clear and concise, at times, as in case 11, most instructive. We are of two minds about such a book as this is. In a way it seems like a correspondence course in diagnosis. On the other hand, to illustrate what one wishes to show, there is no better method than case reports. Possibly the feeling left after seeing 704 pages is that the method has been over-done.

For those who found the first volume useful and helpful this volume is sure to prove more instructive. As a reference book on the solution of some knotty problems in diagnosis it apparently fulfills its purpose.

L. M. W.

DISEASES OF THE BRONCHI, LUNGS AND PLEURA. By Frederick T. Lord, M. D., Visiting Physician, Massachusetts General Hospital and Channing Home for Consumptives; Instructor in Clinical Medicine Harvard Medical School. Octavo, 605 pages. Illustrated with 93 engravings and 3 colored plates. Cloth $5.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

Since the excellent book of Fowler and Godle on Diseases of the Lungs (now long out of print), there has been no textbook on this important branch of medicine which compares with the volume now before us by Dr. Lord.

Very wisely the author has not considered Pulmonary Tuberculosis under a separate heading, but has devoted special attention to conditions which simulate pulmonary tuberculosis and which call for differential diagnosis.

Undoubtedly the most interesting chapter (also the longest as its importance demands), is the chapter on Pneumonia. Dr. Lord has given the very best discussion of this disease which has come under our notice. His valuation of the various sera and vaccines in the treatment seems to the reviewer most sensible. "Morphine is one of the most valuable drugs in pneumonia, and there should be no hesitation in its use in a disease which runs so short a course." Let all say "Amen" to this. Again, "Alcohol is used less and less and it would be better if it were not used at all, except in cases of chronic alcoholism." The reviewer has gone so far in accord with this statement that for several years there has been no whiskey on his wards.

Dr. Lord gives digitalis for heart weakness. Some disagree with this. However his recommendation of intravenous use is in line with the best ideas of administration of cardiac stimulants.

Other interesting chapters include Pulmonary Syphilis, Actinomycosis, Streptothricosis, Blastomycosis, Aspergillosis, Animal Parasites.

Aside from the interest of the actual text, added value is given to the book by the numerous references to literature which are found in foot notes throughout the book. Dr. Lord has selected discriminatingly and has given us a book which should enjoy a wide popularity among all classes of the profession. L. M. W.

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EDITORIALS

PROGRAM ANNOUNCEMENT.

We are pleased to announce that Prof. Lewellys F. Barker of Baltimore has consented to give the Address in Medicine at the October meeting of our State Medical Society. His subject will be "The Internal Secretions," and as Dr. Barker has been accumulating a series of original lantern slides bearing on this subject, his address promises to be one of more than ordinary interest.

Your committee would like to have some further contributions to the proposed symposium on the Cancer Problem.

"The Present Status of Radium and X-Ray Treatment of Cancer", "Fulguration", "Chemical and Thermo-Cautery in Cancer Treatment", "Early Diagnosis of Gastric Carcinoma", "What Should the Laity be Taught About Cancer?", "Malignant Growths Involving the Central Nervous System", "Serum Diagnosis and Treatment", and "Differential Diagnosis of Sarcoma"—these are merely suggestive titles for papers that could properly come under this symposium.

Let's make a day of it, and thresh out this big subject so that we shall feel "up to date" in the diagnosis and therapeutics of cancer.

CHESTER M. ECHOLS.

Chairman Program Committee.

800 Majestic Bldg., Milwaukee.

TWO MATTERS OF PUBLIC INTEREST.

Two matters intimately concerning the medical profession of Wisconsin deserve more than a passing notice. In the February number of the Journal appeared a communication from Dr. Lorenz of the Psychiatric Institute at Mendota, which should appeal to every doctor in the State attempting to do scientific medicine, who has not the necessary laboratory facilities and training to make the Wassermann test. This offer of Dr. Lorenz gives the general practitioner in the State an opportunity, for the first time, to properly supervise his cases of syphilitic infection. Frequently enough, it is possible to have a patient put up the five or ten dollars necessary to have this examination made for the purpose of diagnosis when he first consults us, although too often, even this is beyond his means and a physician who wants to make a positive diagnosis has to pay the cost of the test out of his own pocket, or beg some of his friends with laboratory facilities to make the test for him for nothing. Here for the first time Dr. Lorenz puts it within the possibility of almost any one, not only to scientifically diagnose his cases, but also to follow them up, and test the efficiency of his treatment from time to time.

The second matter of interest to the doctors of the State is the work being done by the Examining Committee of Nurses for Registration in Wisconsin.

In September, the time for registration without examination expired. From that time henceforward any nurse wishing to be registered in Wisconsin must present herself for examination, and

before doing so must give satisfactory evidence that she has spent three years in a Training School conducting a course in training which satisfies the requirements of this committee. The committee have taken their work very seriously, and have made or are making a fairly close investigation of all the hospitals in the State that aim to conduct Training Schools. In doing this work, they have encountered not a few difficulties. At the same time, they have accomplished a great deal of good, and have apparently made it very plain to some of the border line institutions that they must either very greatly raise their standard and increase their efficiency, or lose the possibility of recognition for their nurses in training. Even the better Training Schools, we believe, have felt the stimulus of the committee's work. The improvement in the character of the work being given in the Training Schools throughout the State, because of the efforts of this committee of five nurses, should awaken the profession of this State and especially the seventeen or eighteen hundred members of the State Medical Society to the great indifference that has heretofore been shown regarding the standing of many hospitals, which appear to be conducted for the purpose of gain, or for the purpose of boosting the reputation of the person or persons conducting them, rather than for the welfare of the community in which they exist. We would not for one moment be understood as making charges reflecting on the conduct of the great majority of hospitals in the State of Wisconsin, which we believe to be as a general thing conducted on a very high plane as regards both ethics and efficiency. But, it does seem to be a matter of reproach that while a man who has saved, say fifty or one thousand dollars, has it protected by every safeguard that the State can throw about it, if he wishes to put it in the bank; while at the same time any person (or persons) who has managed to secure a diploma and registration in the State may start a hospital without let or hindrance. Whether this is a matter for the State Medical Society to attempt to remedy, or if it is a matter for State Legislation, we leave for future discussion; but we do think that too much praise cannot be given this committee, which, seeing the injustice involved to both the nurses in training, and to the community, in the poorly conducted or inadequately equipped training school, is attempting to remedy the defect.

TAKING A VOTE IN THE COUNTY SOCIETIES.

On another page will be found a letter in which the practical suggestion is made that all of our County Medical Societies take a vote on the subject of having the laboratory of the Wisconsin Psychiatric Institute undertake the work of making Wassermann examinations at a very low cost.

This seems a very sensible way of discovering the attitude of the medical profession towards this proposition and its adoption is urged. Let the County Secretaries bring the matter up at the next meeting and report the action of the Society in the Journal. In this way we can get definite information.

Another advantage of this method of getting a vote is that the attention of practically every physician in Wisconsin will be drawn to the matter and if the work is undertaken by the laboratory at Mendota there will be a general knowledge of the fact and the facilities will be more generally employed in diagnosis and in controlling treatment.

NEW ASPECTS OF ECLAMPSIA AND ITS TREATMENT.

Writing on the subject of eclampsia under the title given above in the Practitioner for March, 1915, Oliver remarks upon the fact that this formidable and very fatal disease is nearly twice as frequent today as it was twenty-five years ago. He then goes on to state that: "With all our hygienic improvements, the only retrograde changes in our mode of living, which have taken place during the last quarter of a century, and which can possibly be held accountable for the enormous increase and frequency of eclampsia, are those which needlessly and heedlessly, have not only been permitted but even encouraged to be made in the case of some of our most important food-stuffs—changes which have reduced unduly the mineral content more especially of those food-stuffs. The question of the mineral hunger thus provoked has so far attracted too little attention.

"For the due fulfilment of the phenomena of life and the processes of metabolism in animals we have abundant proof that mineral substances are indispensable, and that they are, moreover, of greatest value when they are present in, what we are accustomed to speak of as, the organic form. It is common knowledge that phosphorus is as

essential to animal life as air or water, and that for cell activity it is equally as valuable as nitrogen. For the display of functional activity and for carrying on the chemical changes which condition metabolism, every living cell must have phosphorus. Apart, therefore, from the question of any of the other mineral substances, which are essential to life, the actively growing cells of the fetus must and will strive to have an adequate supply of phosphorus, and, as the avidity of the embryonic cells exceeds greatly that of the maternal cells, the latter, during pregnancy, will, under untoward circumstances, suffer from phosphorus hunger. Now, the oxidation of proteid matter in the organism takes place in intimate union with the phosphorus in the living cell; if therefore, from any cause the phosphorus content of the maternal tissues, especially the nervous and muscular, becomes unduly lowered, then the formation of urea is hampered, and the intermediary products of nitrogenous metabolism are not evolved as they should be, but accumulate in the nerve and muscle cells. Independently of the auto-intoxication which thus results, the relative ratios of the mineral substances in the maternal cells become so altered, that the normal nerve and muscular reactions and irritabilities are changed, and convulsions are readily induced.

"The woman who becomes pregnant in this twentieth century is seriously handicapped from the outset, because the average diet of to-day is very deficient in phosphorus, and in calcium as well, and a diet poor in calcium is responsible for nervous and other disorders. In the cereal grains there is, it is true, an abundant supply of phosphorus and calcium; but, during the last twenty-five years, the roller process of milling has supplanted the burr-stone method of grinding wheat into flour, with the result that the marketable flour of today, from which our bread-stuffs are made, contains little or no phosphorus and little or no lime. Quite recently, too, there has sprung up the very pernicious practice of polishing and coating rice; a practice which has deprived this food-stuff of much of its phosphorus and of other bodies, too, which are indispensable to the maintenance of health in cases in which this cereal constitutes practically the sole diet. It is early days yet to speak deprecatingly of the use of pasteurized milk and of butter made from pasteurized milk; but heating milk to 140° F. or higher so alters the chemical character of the milk that it becomes altogether a less wholesome commodity than in the raw state. Now, either the dietary of our forefathers contained too much phosphorus and too much lime, or the dietary of to-day contains too little of these all-important mineral substances."

Oliver discusses the subject from a theoretical point of view only, and does not present any clinical or experimental observations. But the idea presented, bringing eclampsia into the group of deficiency diseases like scurvy and beri-beri, is an interesting one and is worthy of careful consideration.

The author is inclined to the view that our ideas of these deficiency diseases must be enlarged in the near future and that into this class may eventually be brought such conditions as appendicitis, duodenal ulcer, and many other diseases.

ACONITE AS A VASODILATOR.

The question of how to regulate arterial blood-pressure, especially high pressure, is one which presents itself very frequently to the practitioner of medicine. In a recent number of the American Journal of the Medical Sciences (January, 1915), William Hanna Thomson of New York gives his impressions of the great value of aconite as a vasodilator.

His objection to all of the nitrites is that their vasodilating effects are too transient to produce any adequate results in the narrowed arteries of the cutaneous tissues and the internal viscera. But years of experience in its use have confirmed his belief in the value of aconite as an efficacious vasodilator, when it is given systematically in full doses.

Under the influence of aconite Dr. Thomson has seen the elimination of urea in interstitial nephritis increase to double or even treble the amount which was being excreted previous to its use. To obtain these results Dr. Thomson has given aconite boldly; in one case he reports having used as much as 10 drops of the 35 per cent. tincture of the pharmacopeia of 1890, four times daily, with excellent results in the reduction of the blood pressure.

The tincture of aconite of the present pharmacopeia is a 10 per cent. preparation, and of this Dr. Thomson has given doses of ten to fifteen drops, repeating the dose frequently until the effect of reduction is obtained.

He relates one case of pronounced mental derangement due to high blood pressure in which he was obliged to give 180 drops in the course of three hours, combined with tincture of veratrum viride, before the desired effect was obtained. In this case when the reduction of pressure was once obtained it was possible to maintain it by the use of fifteen drops of the 10 per cent. tincture, given four times a day.

With the reduction in the blood pressure Dr. Thomson reports a marked improvement for long periods in the general condition of the patients and in many cases an entire disappearance of their former symptoms.

CORRESPONDENCE

MILWAUKEE, March 26th, 1915.

Editor Wisconsin Medical Journal:

Announcements have been made by physicians that they are connected with the Ear, Nose and Throat department of Marquette University School of Medicine.

All I wish to say in regard to such "Announcements" at this time is, that the following gentlemen constitute the didactic and clinical teaching staff in those branches: Drs. E. F. Baur, C. J. Coffey, Clemens Messmer, A. G. Kreutzer, Samuel Higgins and Wm. R. Kennedy, at the same time reserving the right to bring the matter to the attention of the proper medical bodies.

Yours fraternally,

FRANZ PFISTER, M. D.,
Head of the Ear, Nose and Throat department, Marquette University School of Medicine.

DURAND, WIS., March 27, 1915.

Wisconsin Medical Journal,
Milwaukee, Wis.

DEAR SIRS:—

In reply to your editorial in the last issue of the Journal, it seems that state examinations for the Wassermann reaction at a nominal fee is what most every member of the medical profession has been most anxiously awaiting. In fact, how can any of us justly sign one of the health certificates without a Wassermann test having been made?

If you could publish an article in the next issue of your paper, calling the attention of every county medical society in the state to the question and have them take a vote on the same at the first meeting, and the result sent immediately to the Journal, would perhaps be the quickest way to get results.

Hoping we may soon be successful in getting the examination made by the state, I am

Yours very truly,

W. W. CASSIDY, M. D.

WISCONSIN ROENTGENOLOGISTS ATTENTION.

Anyone having X-ray plates of any kind that they wish to exhibit at the meeting of the Wisconsin Surgical Society, May 6, will please communicate with me at once, so that we may know the amount of material to be presented, and have time to make arrangements for illumination space.

This meeting will be very largely attended and the X-ray exhibition will be open to all. It is the desire of this committee to make the X-ray exhibit as large, instructive and interesting as possible. An early answer will oblige.

EUGENE A. SMITH,
Chairman Roentgen Ray Section.
79 Wisconsin Street.
Milwaukee, Wis.

PROGRAM WISCONSIN SURGICAL ASSOCIATION.

Clinical session to be held in Milwaukee, Wis., Wednesday, Thursday and Friday, May 5, 6, and 7, 1915. Headquarters, Hotel Pfister.

President—A. H. Levings, Milwaukee.

Vice Presidents—Chas. H. Lemon, Milwaukee; W. E. Fairfield, Green Bay; J. M. Dodd, Ashland; C. W. Cunningham, Platteville.

Secretary - Treasurer—Daniel Hopkinson, 1008 3d St., Milwaukee.

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Program Committee—Chas. H. Lemon, H. Reineking, D. J. Hayes, P. H. Jobse.

Committee of Arrangements—A. T. Holbrook, H. M. Brown, R. G. Sayle.

WEDNESDAY, MAY 5—CLINICS.

Dr. H. M. Brown—General Surgery.
Lakeside Hospital, 8-10.

Dr. M. L. Henderson—Gynecology.
County Hospital, 9-11.

Dr. J. S. Thomas—Gynecology.
County Hospital, 11 A. M. to 1 P. M.

Dr. L. C. Tisdale—General Surgery.
Trinity Hospital, 2-4 P. M.

Dr. Harry Greenberg—General Surgery.

Dr. W. E. Grove—Surgery of Nose, Throat and Accessory Sinuses.

Dr. C. A. H. Fortier—Roentgenologic Demonstrations.
Mt. Sinai Hospital 8:30 A. M. to 12:30 P. M.

Dr. A. H. Levings—General Surgery.
St. Joseph's Hospital, 2 to 5 P. M.

Dr. J. L. Yates—General Surgery.
Columbia Hospital, 8-10.

Dr. Ernest Copeland—Gynecology.
Columbia Hospital, 10-12.

Dr. R. G. Sayle—General Surgery.
Milwaukee Hospital, 10-12.

EVENING SESSION, 8:15 P. M.

Red Room—Hotel Pfister.

Election of Officers.

1. Unusual Herniae with Report of Cases.
Dr. T. W. Nuzum, Janesville.

Hernia frequency and varieties, congenital and acquired traumatic herniae. Hernial contents and need of great care in determining same. Surprises not unusual. Reference to experiments producing traumatic herniae. Regions of most frequent occurrences, varieties, age and sex. Causation and prevention. Treatment palliative in very old and young. Curable in very young. Operative method of preference. Report of cases. Conclusions.

Discussion: Dr. Arthur Helms, Beloit; Dr. D. J. Hayes, Milwaukee.

2. The Thyroid Gland During Pregnancy.
Dr. Karl Doege, Marshfield.

Relation between the thyroid and the female genitals. Physiological changes in thyroid that accompany normal genital functions. Effect of pregnancy on the normal gland: (a) in simple goiter; (b) in non-active goiter, myxoedema; (c) in hyperactive goiter, hyperthyroidism. Indications for treatment: (a) Medical, (b) Surgical.

Discussion: Dr. C. M. Echols, Milwaukee.

3. Carcinoma of the Breast, Diagnosis and Treatment. Dr. Geo. R. Baker, Tomahawk.

Relative frequency of Carcinoma of the Breast. Channels thru which extension takes place, and their importance from a clinical standpoint. Points in diagnosis. Importance of early diagnosis, and radical surgical interference. Summary.

Discussion: Dr. W. C. F. Witte.

THURSDAY, MAY 6TH.

Clinics.

Dr. A. H. Levings—General Surgery.
St. Joseph's Hospital, 8-11.

Dr. W. C. F. Witte—General Surgery.
St. Mary's Hospital, 9-12.

Dr. Henderson—Gynecology.
Trinity Hospital, 8-10.

Dr. Chas. H. Lemon—General Surgery.
Trinity Hospital, 10-12.

Dr. H. M. Brown—General Surgery.

Dr. A. C. Jenner—Surgery of the Urinary Tract.
Lakeside Hospital, 8-10.

Dr. J. L. Yates—General Surgery.
County Hospital, 8:30-11.

Dr. H. Reineking—General Surgery.
County Hospital, 11 A. M. to 1 P. M.

Dr. S. H. Wetzler—General Surgery.

Dr. P. H. Dernehl—Surgery of the Eye.

Dr. C. A. H. Fortier—Roentgenologic Demonstration. Mt. Sinai Hospital, 8:30 A. M. to 12:30 P. M.

Dr. G. V. I. Brown—Oral Surgery.
St. Mary's Hospital, 1-3 P. M.

Dr. F. A. Stratton—General Surgery.
St. Joseph's Hospital, 1-3 P. M.

Dr. H. A. Sifton—General Surgery.
Milwaukee Hospital, 8-12.

Dr. R. G. Sayle—General Surgery.
Milwaukee Hospital, 1-3.

Dr. F. J. Gaenslen—Orthopedic Surgery.
Columbia Hospital, 9-11.

Dr. H. B. Hitz—Surgery of the Nose and Throat.
Columbia Hospital, 8-10.

AFTERNOON SESSION, 3 TO 6 P. M.

Club Room—Hotel Pfister.

1. Cystoscopy in Surgical Diseases of the Bladder and Kidney. Dr. E. A. Fletcher, Milwaukee.

Simple Cystoscopy in the diagnosis of intravesical lesions. Operative Cystoscopy in the treatment of bladder tumors. Removal of foreign bodies and dislodgment of ureteral stones. Catherterizing Cystoscopy in the diagnosis of ureteral and renal conditions, normal and pathological.

Discussion: Dr. W. C. F. Witte, Dr. A. H. Levings.

SYMPOSIUM ON X-RAY IN SURGERY.

Lantern Slide Illustrations.

Dr. Eugene A. Smith, Chairman.

1. X-Ray Diagnosis in Hospital and Office—Dr. Eugene A. Smith.
2. X-Ray Diagnosis in Thoracic Conditions—Dr. Paul Eisen.
3. X-Ray Diagnosis in Abdominal Conditions—Dr. C. A. H. Fortier.
4. X-Ray Diagnosis in Genito-Urinary Surgery—J. S. Janssen.
5. X-Ray as a Therapeutic Agent—Dr. W. A. Sickles.

Discussion of the above papers, followed by the interpretation and discussion of the plates in the X-Ray exhibit.

A large number of X-Ray plates of unusual and interesting variety has been secured for this meeting. The exhibit will be so arranged and labeled as to render it easy to understand.

THURSDAY EVENING BANQUET, 7 P. M.

Red Room, Hotel Pfister.

FRIDAY, MAY 7TH.

Clinics.

Dr. C. M. Echols—Gynecology.
St. Joseph's Hospital, 9-11.

Dr. F. J. Gaenslen—Orthopedic Surgery.
County Hospital, 8:30-11.

Dr. H. Oakland—General Surgery.

Dr. Max Bornstein—General Surgery.

Dr. C. H. Fortier—Roentgenologic Demonstration.
Mt. Sinai Hospital, 8:30 A. M. to 12:30 P. M.

Dr. A. H. Levings—General Surgery.
St. Joseph's Hospital, 2-4.

Dr. P. F. Rogers—General Surgery.
Milwaukee Hospital, 8-10.

Dr. C. A. Evans—General Surgery.
Milwaukee Hospital, 8-11.

Dr. W. L. LeCron—General Surgery.
Columbia Hospital, 8-10.

LOCATION OF HOSPITALS.

County Hospital.....Wauwatosa

Lakeside Hospital.....410 Prospect Avenue

Milwaukee Hospital.....2200 Cedar Street

Mount Sinai Hospital.....12th and Cedar

St. Joseph's Hospital.....639 Fourth Street

St. Mary's Hospital.....448 Lake Drive

Trinity Hospital.....200 Ninth Street

Columbia Hospital.....9th and Sycamore

After the evening session of May 5th, there will be a special musical program in the Fern Room of the Hotel Pfister, where members may enjoy a social session.

Register your arrival immediately at the Information Bureau at the Hotel Pfister, and receive the Daily Bulletins which will be issued, and such other information regarding the meeting as it is not now possible to publish.

NEWS ITEMS AND PERSONALS

Dr. J. R. Currens was elected mayor of Two Rivers on April 6th.

Dr. O. M. Sattre, Rice Lake, has associated himself in the practice of medicine with Dr. D. L. Dawson, recently of Cook County Hospital, Chicago.

Drs. F. M. Scheele and R. L. Williams, house physicians at the Emergency Hospital, Milwaukee, for the past two and one-half years, will retire on May 1 and July 1 respectively to enter private practice.

Dr. F. C. Werner, Madison, has been appointed special agent to enforce the provisions of the Harrison narcotic law. Dr. Werner will work under the direction of W. P. Smith, in charge of the Milwaukee office, under the collector of internal revenue.

Dr. Bart Bantley, former chief surgeon of the Soldiers Home at Waupaca, has been appointed assistant surgeon at the National Home at Togus, Maine.

Drs. V. D. Crone and H. W. Aldridge have formed a partnership at Manitowoc for the practice of their profession.

Drs. L. A. Kliese and Joseph Lettenberger, Milwaukee, have been appointed members of the second board of pension surgeons at Milwaukee.

Dr. D. W. Lynch, West Bend, is at San Francisco, Cal., taking a post-graduate course at the University of California. He returns to West Bend about May 1.

Dr. W. A. Howard, Omro, has disposed of his practice to Dr. Mason of Chicago. Dr. Howard retires from active practice and will locate on a ranch in the west.

April 27, 1915, at Beloit, Wis., there will be a joint meeting of the medical and dental professions of Rock County.

Dr. E. R. DeBoth, Green Bay, has been appointed acting assistant surgeon in the United States Public Health Service. Work under the marine hospital service will be done by him at Green Bay.

Dr. N. M. Kersten was on March 24 elected city physician and health commissioner of De Pere.

Drs. J. C. Wright and W. H. Lewis are candidates for the position of city health officer of Antigo to succeed Dr. G. W. Moore, who is also a candidate for re-election.

Dr. Geo. C. Ruhland, Health Commissioner of Milwaukee, is opposing the Poole Bill prohibiting cities, unless acting under a state law, from demanding tuberculin tested milk from the dealers furnishing the milk supply.

The City Hospital, Menomonie, was opened to the public on March 8.

The West Allis General Hospital Association, of West Allis, on March 30th filed articles of incorporation in the office of the secretary of state. The association has a capital stock of $25,000.

The establishment of an outdoor dispensary to the Milwaukee Children's Free Hospital was recommended in the annual report of the hospital association. The maintenance of such a dispensary would cost not less than $3,000 a year.

The county board, Vernon County, submitted to the voters at the spring election the question of bonding the county for $20,000 for a tuberculosis sanatorium.

Postal card birth certificates will be sent to every child born in Wisconsin during the present

year by the state board of health. These certificates, while not being certified copies of the official records, will be accepted by the state as proofs of age for school attendance, and for compliance with the state labor laws in future years, members of the board are claiming.

The taxation of all hospitals, homes and asylums where a fee is charged for the care of the patient is proposed in a bill that has just been reported by the assembly committee on revision to the house. The bill, which is offered by Assemblyman Hart of Oshkosh, will be referred to a committee of the legislature for consideration.

The American Social Hygiene Association has been offered a prize of $1,000 by the Metropolitan Life Insurance Company, to be awarded to the author of the best original pamphlet on social hygiene for adolescents between the ages of twelve and sixteen years, approved by a committee of judges to be selected by the association. Competition for this prize is open to all. The Metropolitan Life Insurance Company desires to use the winning pamphlet among its industrial policyholders. The committee of judges will conduct the competition in accordance with the following conditions:

Contest closes July 31, 1915, at midnight; any manuscript received later will not be considered.

Manuscripts should not exceed 3,500 words, and must be in English, and must not have been previously published.

Manuscripts must be typewritten on one side only of plain white paper, 8 inches by 10½ inches.

Manuscripts must be paragraphed and punctuated for submission as "copy" to printer.

Each manuscript must bear some identifying mark or pen-name, but not the name of the author.

The author's name and address, and the identifying mark or pen-name should be in a sealed envelope, accompanying the manuscript; the face of the envelope should bear the mark or pen-name only.

More than one manuscript may be submitted by the same author.

The winning manuscript, in consideration of the award of $1,000, becomes the property of the donor of the prize, all rights therein being surrendered by the author.

The right to purchase any manuscript submitted, at the rate of 5c a word is reserved by the Metropolitan Life Insurance Company and by the American Social Hygiene Association.

Any manuscript not winning the prize or purchased will be returned to the author if return postage is provided.

Address manuscripts and requests for further information to The American Social Hygiene Association, 105 West 40th Street, New York City.

Announcement has just been made of the opening of a laboratory of surgical research in Chicago. The management announce that in connection with original research work on the part of the regular staff, private and class instruction will be given to surgeons desiring to perfect their technique.

The program seems very interesting and as the personnel of the instructors is high, the work should be of considerable value.

The institution will be known as the Chicago Surgical Research Laboratory and a downtown office has been established at 327 So. LaSalle St., Chicago.

This institution, which is not to be conducted for profit, should prove a valuable addition to the several excellent post-graduate schools in Chicago.

The Seventh Pan-American Congress will meet in San Francisco, June 17th-21st inclusive. It assembles pursuant to invitation of the President of the United States issued in accordance with an act of Congress approved March 3, 1915.

The countries and colonies embraced in the Congress are the Argentine Republic, Bolivia, Brazil, Canada, Columbia, Cuba, Chile, Costa Rica, El Salvador, Ecuador, Guatamala, Honduras, Haiti, Hawaii, Mexico, Martinique, Nicaragua, Panama, Paraguay, Peru, Santo Domingo, United States, Uraguay, Venezuela, British Guiana, Dutch Guiana, French Guiana, Jamaica, Barbadoes, St. Thomas and St. Vincent. The organization of the Congress is perfected in these countries and the majority of them have signified their intention to be represented by duly accredited delegates.

The Congress will meet in seven sections, viz.: (1) Medicine; (2) Surgery; (3) Obstetrics and Gynecology; (4) Anatomy, Physiology, Pathology and Bacteriology; (5) Tropical Medicine and General Sanitation; (6) Laryngology; Rhinology and Otology; (7) Medical Literature.

All members of the organized medical profession of the constituent countries are eligible and are invited to become members. The membership

fee is $5.00 and entitles the holder to a complete set of the transactions. Advance registrations are solicited and should be sent with membership fee to the Treasurer, Dr. Henry P. Newman, Timken Building, San Diego, California.

The general railroad rate of one fare for the round trip, good for three months, made on account of the Panama-Pacific Exposition at San Francisco, and the California Exposition at San Diego is available for the Pan-American Medical Congress.

The Palace Hotel will be headquarters.

The First Pan-American Medical Congress was most successfully held in the United States in 1893. Five intervening Congresses have been held in Latin American countries. It now devolves upon the medical profession of the United States to make this, the seventh, the most successful in the series.

CHARLES A. L. REED,
President, Union Central Building, Cincinnati.

HARRY M. SHERMAN,
Chairman Committee of Arrangements, 350 Post St., San Francisco.

RAMON GUITERAS,
Secretary General, 80 Madison Avenue, New York City.

PHILIP MILLS JONES,
Special Committee on Hotels, 135 Stockton St., San Francisco.

MARRIAGES

Dr. W. Webber Kelly, Green Bay, and Miss Ida M. Nadeau, Marinette, April 5th, at Marinette.

REMOVALS

Dr. Geo. Goggins, Chilton to Tigerton.

Dr. Hugo Fridstein, Marinette, has located at Ladysmith.

Dr. G. W. Griswold, Melrose to Alma Center.

Dr. E. R. Boyer, Monticello to Hersey, St. Croix County.

Dr. S. H. Richman, Racine to Oak Forest, Ill.

Dr. L. J. Friend, for the past three years located at Abbottsford, has disposed of his practice to Drs. Kersten and Dubinske, and has located at Milwaukee, where he will be associated with Dr. N. M. Black.

DEATHS

Dr. Betcher, a well remembered former practitioner of Gillette, is dead at Rochester, Minn., according to a dispatch received on March 13th.

Dr. C. O. Straub a former resident of Milwaukee, died on March 24th, at his home in Minneapolis, where he had resided for the past seventeen years. He was a graduate of Rush Medical College, 1895.

Dr. E. W. Fairman, Brodhead, died at his home on March 29th, aged 69 years. He had practiced at Brodhead for the past twenty years. He was a graduate of Rush Medical College, class of 1872.

Dr. Frederick R. Mosher, Milwaukee, died on March 30, 1915, after a year's illness of tuberculosis. Dr. Mosher was 45 years old, and had practiced at Milwaukee for sixteen years. He was born at Caledonia, Racine County, and studied medicine at the Wisconsin College of Physicians and Surgeons, graduating in 1898. He retired from active practice three years ago.

Dr. Osborne G. Lord, Kaukauna, a pioneer physician of that city, died on February 15th. Dr. Lord was a native of Oxford County, Maine, and was born December 1, 1845. He was a graduate of the Medical School of Maine, Portland Maine, 1870. After two years of practice in the east, he located at Kaukauna, where he resided up to the time of his death. He was an honorary member of the Fox River Valley Medical Society.

Dr. Edward C. Dollard, Neenah, died at the Theda Clark Hospital in that city on April 1st, after undergoing an operation for appendicitis. He was born in the town of Russell, Sheboygan County, forty-two years ago. He attended Rush Medical College and Jefferson College, Philadelphia, completing his course at the latter institu-

tion. Returning to Glenbeulah, near his old home, he opened an office and practiced there for several years, after which he took a post-graduate course in Europe. On his return from Europe he located at Neenah.

Dr. Horace E. Mann, for nearly forty years located at Marinette, died on March 4, at his home at Oak Park, Ill. He was born in Vermont, April 23, 1844. In 1862 he enlisted with Co. H, 32nd Wisconsin Volunteer Infantry, and served until the close of the war. He returned to Fond du Lac in 1865. Later he conducted the Algier Hotel at New London, after which he held a position at the postoffice at Fond du Lac. In 1868 he took up the study of medicine at Long Island College Hospital, Brooklyn, graduating in 1874, coming directly to Marinette to practice. He resided at Marinette until 1912, when he retired, owing to impaired health, and removed to Oak Park, Ill.

ABSTRACTS

Investigations on Poisons for the Uvea.5. Communication. Guillery, H. (From the bacteriological laboratory of the city of Coeln Arch. f: Aug., 78, p. 11), proved experimentally in former essays reviewed in the Wisconsin Medical Journal, that a so far not known form of uveitis can be produced in rabbits by intraocular, and also by intravenous, injections of certain poisons. He now reports on his researches with regard to the nature of these poisons. For that purpose he selected the poisonous action of the proteolytic ferment of bacterium prodigiosum, which in his preliminary experiments seemed to be especially reliable and also had the property of passing from the culture fluids into the filtrate. Of the two qualities of the bacterium prodigiosum of liquifying gelatine and producing mucus, the former was found to be most essential. This showed that the faculty of developing ferments was the most important point, and only those strains were used which possessed this in especial degree. G. describes in detail how he prepared the most powerful solutions according to the principles devised by Czaplewski. Since he used these for intravenous injections the typical clinical reaction of the eye, described in his former essays, never failed, as demonstrated by new examples. The anatomical changes were also characteristic, viz., a severe inflammation of the exterior strata of the chorioid, consisting in the production of lymphocytes and numerous epitheloid cells, illustrated by micro-photographs. The kind of reaction was always the same, only the degree varied in different animals.

C. Zimmermann.

Contribution to the Knowledge of Blood-Staining of the Cornea. Kusama (From the eye clinic of Prof. Kosmoto in Tokio), Klin. Mon. f. Aug., 53, p. 99), reports two cases. In a woman, aged 42, it occurred two weeks after an iridectomy for relieving the pain in absolute glaucoma, which was followed by profuse hemorrhage into the anterior chamber. The other, a boy, aged 8 years, received a blow by a fist on his left eye. After twenty days V. was reduced to perception of light. Three months after the injury the anterior chamber contained a blackish brown fluid and the central portion of the cornea presented a peculiar yellowish green opacity in form of a disc. A small piece of this portion was removed for microscopic examination. The chief changes of the cornea consisted in a peculiar granulation of its parenchyma, owing to infinite roundish or ovoid yellowish brown corpuscles of great refracting power, of the size of from 2 to 4 micromillimeters, lying on the fibrillae in the lamellae. In the corneal cells or lacunae were numerous pigment granules of hemosiderin, which were stained green by the familiar iron reactions. The bodies were best stained with hematoxylin and Mallory's connective tissue stain. They are very resistent to chemicals, and their nature has not yet been found.

On account of their indifferent qualities K. surmised that they might be melanin. He therefore treated them with all known solvents of pigment, with the following result: By immersion in hydrogen peroxide for two weeks they disappeared entirely, whether stained or not, also by exposing them for five days to permanganate of potash 1:1000 and oxalic acid, according to Alfieri. They thus have the properties of melanosiderin (Unna), the ultimate product of the alteration of coloring matter of the blood.

K. concludes with regard to the genesis of these bodies that most likely the blood in the anterior chamber loses its normal condition and that hemoglobin, liberated from the red blood corpuscles, diffuses into the parenchyma of the cornea. Gradually hemosiderin and later by elimination of the iron these bodies appear, which belong to the group of Unna's melanosiderin.

C. Zimmermann.

Retinitis Punctata Albescens et Pigmentosa. Diem, Martha, St. Gallen. (From the eyeclinic of Prof. O. Haab in the University of Zürich. Klin. Mon. f. Aug., 53, p. 371.) A girl, aged 18, whose father and father's brother had retinitis pigmentosa, whose grandmother had been blind and other members of the family had ocular affections, had diminished central vision and peripheral contraction of the visual fields. The macula was encircled by very fine yellowish white spots. The periphery of the fundus showed yellowish white spots and accumulations of black pigment. Thus the case presented the very rare combination of two different pathological processes: retinitis punctata albescens and retinitis pigmentosa. It was a chronic atrophy of the retina, in which the degeneration set in at different parts of the retina in varying intensity.

C. Zimmermann.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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R. W. BLUMENTHAL, Milwaukee, Chairman

NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 6-8, 1915.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	M. S. Hosmer, Ashland	J. V. Wenzel, Ashland.
Barron-Polk-Washburn-Sawyer-Burnett	G. N. Lemmer, Spooner	A. S. White, Rice Lake.
Brown-Kewaunee	W. H. Bartran, Green Bay	H. C. Mix, Green Bay.
Calumet	C. L. R. McCollum, Forest Junction	F. J. Fechter, New Holstein.
Chippewa	A. C. Nussle, Chippewa Falls	A. L. Beier, Chippewa Falls.
Clark	H. H. Christofferson, Colby	E. L. Bradbury, Neillsville.
Columbia	O. O. Force, Pardeeville	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	C. S. Sheldon, Madison	L. H. Prince, Madison.
Dodge	R. E. Bachhuber, Mayville	E. S. Elliott, Fox Lake.
Door	H. F. Eames, Egg Harbor	T. C. Proctor, Sturgeon Bay.
Douglas	W. E. Hatch, Superior	D. R. Searle, Superior.
Dunn-Pepin	F. E. Butler, Menomonie	I. V. Grannis, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	J. M Baasen, Mt. Calvary	H. C. Werner, Fond du Lac.
Grant	S. W Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	W. B. Gnagi, Monroe	L. A. Moore, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	F. R. Silverthorn, Berlin.
Iowa	W. J. Pearce, Dodgeville	H. D. Ludden, Mineral Point.
Jefferson	H. P. Bowen, Johnson Creek	W. A. Engsberg, Lake Mills.
Juneau	C. C. Vogel, Elroy	A. T. Gregory, Elroy.
Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	H. O. Shockley, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	R. W. Jones, Wausau	R. M. Frawley, Wausau.
Marinette-Florence	E. E. Axtell, Marinette	R. R. Heim, Marinette.
Milwaukee-Ozaukee	R. G. Sayle, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	L. G. Sheurich, Tomah	Spencer D. Beebe, Sparta.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
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Pierce	Martin Oyen, Ellsworth	R. U. Cairns, River Falls.
Portage	W. W. Gregory, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	E. A. Richy, Park Falls	G. H. McClure, Westboro.
Racine	F. J. Pope, Racine	Susan Jones, Racine.
Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center.
Rock	E. E. Loomis, Janesville	F. E. Sutherland, Janesville.
Rusk	Julian C. Baker, Hawkins	L. M. Lundmark, Ladysmith.
Sauk	F. D. Hulburt, Reedsburg	Roger Cahoon, Baraboo.
Shawano	C. E. Stubenvoll, Shawano	H. J. Calkins, Shawano.
Sheboygan	G. H. Stannard, Sheboygan	A. J. Knauf, Sheboygan.
St. Croix	Philip McKeon, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	C. L. Story, Whitehall	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
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Washington	H. Albers, Allenton	S. J. Driessel, Barton.
Waukesha	F. J. Woodhead, Merton	S. B. Ackley, Oconomowoc.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London
Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	Hugh F. Waters, Nekoosa	W. G. Merrill, Grand Rapids.

SOCIETY PROCEEDINGS

CRAWFORD COUNTY

A meeting of the Crawford County Medical Society was held on March 5th at the Prairie du Chien Sanitarium. After a banquet in the sanitarium dining room, the evening was devoted to the transaction of business. The members present being: Drs. F. J. Antoine, Chas. A. Armstrong, W. T. Pinkerton and R. M. White of Prairie du Chien; A. J. McDowell of Soldiers Grove; A. E. Dillman of Steuben; R. R. Harris of Dubuque, and Stevens of De Soto.

DOOR COUNTY

The annual meeting of the Door County Medical Society was held on February 18th at the Peninsula Club Rooms at Sturgeon Bay, and the following officers were elected: president, H. F. Eames; vice president, E. H. Robb; secretary-treasurer, T. C. Proctor; delegate, F. C. Huff; alternate, J. Donovan; censors, H. F. Hilton and A. J. Kreitzer.

EAU CLAIRE COUNTY

A meeting of the Eau Claire County Medical Society was held at Eau Claire, March 29, at the Public Library. The special feature discussed was the need of medical inspection of schools. Members of the school board and the city commissioners were the guests of the society.

GREEN, DANE, COLUMBIA, ROCK COUNTIES.

Tuesday, May 11, 1915, from 10 A. M. to 4 P. M., there will be a joint meeting of the physicians of Green, Dane, Columbia and Rock Counties. Dr. C. S. Sheldon is to be leader. A live and interesting program has been arranged for. Papers will be read by physicians from Beloit, Monroe, Madison, Janesville, Portage and Chicago. The program committee has made arrangements for a stereopticon lecture upon Brain Surgery, especially brain tumors, diagnosis and treatment. We are hoping to make this meeting the best and most instructive of any given throughout the state.

FRED E. SUTHERLAND, *Secretary,*
Rock County Medical Society.

JEFFERSON COUNTY

At the recent annual meeting of the Jefferson County Medical Society, held at Jefferson, the following officers were elected: president, Dr. H. P. Bowen, Johnson Creek; vice president, Dr. J. A. Keithley, Palmyra. secretary-treasurer, Dr. W. A. Engsberg, Lake Mills; censor, Dr. L. J. Bennett, Ft. Atkinson; delegate, Dr. H. O. Caswell, Ft. Atkinson.

MARATHON COUNTY.

At a meeting of the Marathon County Medical Society Dr. R. W. Jones was elected president and Dr. R. M. Frawley vice president of the Marathon County Medical Society.

JOINT MEETING OF THE MARINETTE-FLORENCE AND MENOMINEE COUNTY MEDICAL SOCIETIES AND THE MENOMINEE RIVER VALLEY DENTAL SOCIETY.

The meeting of March 10, 1915, was called to order by Dr. E. E. Axtell, presiding. Dr. T. J. Redelings was asked to act as secretary for the evening. The reading of the minutes of the previous meeting was dispensed with. The scientific program was as follows:

Dr. R. C. Elwood presented two most interesting clinical cases: First, A Foreign Body in the Eyeball, which was removed with a giant magnet with preservation of a high degree of vision. Second, A Penetrating Wound of the Sclera involving the ciliary body.

Dr. E. E. Axtell read a paper on "Radiologic Diagnosis of Chest and Bone Diseases." The paper was illustrated by stereoscopic views which added greatly to its interest and instructiveness. Discussed by Drs. Slome, Michaelis and Redelings. Closed by Dr. Axtell.

Dr. E. O. Gillespie, Stephenson, Mich., then read a paper entitled: "What is the Relation of the Dentist to the Physician?" The paper was well received and was quite generally discussed by Drs. May, Walker, Redelings, Slome, Raiche, Berglund, Buell, Mason, Vennema, Schroeder, Michaelis, Peaslee, Elwood, Colter, Williams, and Boeren.

Dr. Buell then read an interesting paper on "Oral Hygiene." The president then proposed that the discussion of this paper be deferred until the reading of the next paper and that the two papers be discussed jointly.

Dr. E. H. Redeman presented a paper on "The Relation of the Development of the Dental Arch to the Growth and Elimination of Adenoids." The doctor presented a number of casts of the palatine arch before and after treatment showing the effect of mechanical efforts at spreading the arch, which made an interesting demonstration.

These interesting papers were then discussed. Practically all the members present participating in the discussion.

Dr. Mason made a motion that the March meeting be set aside annually for a joint meeting of the two societies. This motion received no second.

The acting secretary then offered the suggestion that the societies endeavor to hold one joint session annually, not specifying the time.

There were twenty-one members present. Eleven from the medical societies and ten from the dental society.

The meeting on the whole was profitable and enjoyable.

Adjournment.

T. J. REDELINGS, M. D.,
Acting Secretary.

MILWAUKEE COUNTY

At a meeting of the Medical Society of Milwaukee County, held at the Public Museum on March 9th, the following program was presented: Demonstration of Endameba Buccalis, Dr. Daniel Hopkins on Modern Aspect of Acute Dilatation of the Heart, Dr. Charles Spencer Williamson, University of Illinois; Surgery Among the Natives of the Far and Farthest East with lantern slides Dr. J. R. McDill.

MONROE COUNTY

Members of the Monroe County Medical Association met at Sparta at the offices of Drs. Sarles Beebe and Beebe. This was the annual meeting of the organization and Dr. L. G. Scheurick of Tomah was elected president and Dr. S. D. Beebe, Sparta, was chosen to succeed himself as secretary-treasurer. Eight members were in attendance.

SHAWANO COUNTY

Shawano County Medical Society held its quarterly meeting at Shawano on April 14th. In the evening a banquet was held.

WOOD COUNTY

The spring meeting of Wood County Medical Society was held at the city hall, Marshfield, Tuesday, March 16, 1915, at 8 P. M. A program devoted exclusively to obstetrical topics was given: "Surgery During Pregnancy", Dr. K. W. Doege; "Ocular Disturbances in Pregnancy", Dr. Wm. Hipke; "Practical Points in Obstetrical Practice", Dr. J. A. Jackson. The new officers elected are: president, Hugh F. Waters; secretary, W. G. Merrill.

MILWAUKEE OTO-OPHTHALMIC SOCIETY

At the regular meeting of the Milwaukee Oto-Ophthalmic Society held on March 16th, 1915, the following papers were read in the symposium of diseases of the nasal accessory sinuses:

Etiology, Dr. C. J. Coffey.

Symptoms and Diagnosis, Dr. A. G. Kreutzer.

Ocular Manifestations, Dr. J. A. Bach.

Roentgen Rays in the Diagnosis, Dr. Eugene A. Smith.

Treatment, Dr. H. B. Hitz.

Dr. Joseph C. Beck of Chicago opened the discussion.

There were 21 members and 15 guests present.

G. I. Hogue, M. D.,
Secretary.

OSHKOSH MEDICAL CLUB.

The Oshkosh Medical Club held a social gathering at the home of Dr. M. E. Corbett on March 18. Thirty-two physicians attended the meeting. The first part of the evening was devoted to a discussion of "Deep X-Ray Therapy", a paper on that subject being given by Dr. G. M. Steele. At 10 o'clock a dinner was served.

The semi-monthly meeting of the Oshkosh Medical Club was held at the home of Dr. J. M. Hogan, Oshkosh, March 30. Two papers were presented: "The Practical Value of Routine Blood Examination in General Practice", by Dr. E. F. Bickel, and "Blood Pressure", by Dr. M. E. Corbett.

The next meeting of the Club will be held on April 14, at the home of Dr. Haubrick, and on April 28 the Club will meet at the Northern Hospital, where a clinic will be conducted. The meeting of May 12 will be a joint sesssion with the Winnebago County Medical Society. The last meeting of the year will be May 26, when a banquet will be held.

ABSTRACTS

A Case of Paresis of Accommodation After Diphtheric Vulvovaginitis. Pape, R., Detmold. (Klin. Mon. f. Aug., 53. p. 427.) A girl, aged 12, complained that she could not see well for the last two weeks. especially that she could not read and write. VR 5/15, with +1.00 5/15, VL 5/15, with +1.50 5/5. Medium sized print (Nieden 7) could not be read, even at larger distance, but with R+3 L+3.50 No. 1 at 30cm. Pupillary reaction preserved. P. surmised a post-diphtheric paralysis of accommodation, but there was no history of diphtheric angina. On further inquiry, however, the father stated that, eight weeks ago, the girl had an inflammation of the sexual organs with purulent discharge, which. P. had no doubt, was a diphtheric vulvovaginitis. C. Zimmermann.

The Significance of the Intactness of the Macula in the Hemianopic Visual Field for Cerebral Localization. Lenz, Georg (from the eyeclinic of Prof. W. Uhthoff in the University of Breslau, Klin. Mon. für Aug., 53, p. 30), reached in a former essay (von Graefe's Archiv, 72) the conclusion, that the assumption of a representation of the whole macular region in both visual centres explains best the intactness of the macula in otherwise complete hemianopsia. This double representation of the macula is not due to partition of the macular fibres in the chiasm, according to Wilbrand, but to commissures which more centrally connect the visual centres through the corpus callosum. L. found the center of the parietal lobe as the place of the branching off of this commissural path. If the visual path is completely severed, the macula can only remain intact if the focus is central from the centre of the parietal lobe. If the visual path is severed peripherally from this point, half of the macular region must be lacking and the line of separation must go exactly through the point of fixation. L. emphasized the great importance of this assumption for cerebral localization.

He now discusses the criticisms by Best, Krusius, Lönne, Behr and Jess, and refutes their deviating views, by the detailed report of seven new cases, corroborating his explanation. C. Zimmermann.

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ORIGINAL ARTICLES

THE RELATION OF THE STATE UNIVERSITY TO THE MEDICAL PROFESSION.*

BY C. R. BARDEEN, M. D.,

DEAN AND PROFESSOR OF ANATOMY, COLLEGE OF MEDICINE, UNIVERSITY OF WISCONSIN.

MADISON.

The primary functions of a university are teaching and research. The justification for the public support of higher education, in general, lies in the development of power and ideals in those of its youth who have capacity for intellectual leadership but who might miss adequate training without public aid. This justification is certainly true of medical education. A physician, to be of real value in a community, must be a well trained man of ideals and our present standards of medical education require so great an outlay in time and money that few would have the means were there not public or philanthropic support. For premedical, medical and hospital work a student must expect to give up seven of the best years of his life, and in addition, have a considerable outlay for room and board, clothing, books and instruments. If in addition he has to pay the full cost of his medical instruction, estimated at $500 per student per year in Berlin and from $350 to $2,000 per student per year in the Class A schools in this country, few could meet the test. Furthermore, the physician is called upon for a considerable amount of public and private charitable service, so as to justify from quite a different point of view the public support of his instruction.

Wisconsin has done far less than the neighboring states for medical education. Michigan, Iowa and Minnesota have recognized from the time of the establishment of their state universities that medicine should form an important part of their work, and in recent years have given splendid support to their medical schools. Illinois, while long having an affiliation with the College of Physicians and Surgeons of Chicago, has only just begun to give adequate state support to medical education. We may expect there a rapid development. At Wisconsin a medical school was likewise comprised within the plans of the university when it was organized, but the desire to concentrate the limited resources of the institution toward the development of a classical college caused the projected medical school to be given up. With the development of the physical and biological sciences at the university a generation ago there grew up, however, a useful "premedical" course which gave an excellent preparation to college men for subsequent medical studies. Changing conditions in medical education led the university ten years ago to take steps toward the establishment of a medical school giving the first two, or laboratory years, of the clinical course. This was established in 1907-8 and has had a steady and successful growth. The rapid increase in the number of students attending the university, meanwhile, has caused the problem of looking after the health of the students to become more and more difficult. In 1910, the department of clinical medicine was established with the idea, on the one hand, of offering such clinical instruction to medical students as may properly come within the first two years of the medical course and, on the other hand, of giving adequate supervision to the care of the health of the students. The work of this department has likewise proved successful and has led to development in unexpected directions.

The problems presented by various conditions found among the students have necessitated the development of special laboratory facilities at the Clinic. Various persons, not students, have from time to time sought medical advice or treatment there, chiefly because of the desire to make use of these special facilities. These patients have been informed that the members of the clinical staff are too busy with the care of the health of the students and with teaching and research to engage in general outside practice and that they

*Read at the Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 9, 1914.

do not care to build up a private consulting practice. As a matter of accommodation, however, or from scientific interest these patients have not infrequently received some medical attention at the Clinic. In the main, this medical attention has been directed toward diagnosis of a puzzling case or to the study of a series of cases to determine their etiology, as for instance the relation of sinus disease or teeth infections to general disturbances of the body. As a rule, no charge has been made for these services because it has been the desire to have the patient understand that what has been done has been done either as a matter of accommodation or from scientific interest and that he should look to his family physician or to some specialist for general care and treatment.

While usually these services have been received in the spirit in which they have been given, some individuals have shown a tendency to abuse the good nature of the members of the clinical staff. It has, therefore, seemed best to attempt to readjust the clinical work done for patients, not students, at the university and to organize it in such a way as to make it of benefit alike to the patient, the patient's physician and the medical school.

A tentative plan for the coming year has been adopted by the board of regents. Two hours three times a week are to be set aside as office hours at the clinic for consultation with patients not students at the university, and with a few special exceptions, such patients are to be restricted to these hours. Outside the Clinic patients may be seen in consultation with the patient's physician at hours which do not conflict with regular university duties. In case of consultation at the Clinic the patient is expected to come on the advice of his physician to whom the medical staff will report the results of the study of his case. The cases in which it is expected that the medical staff may be of service are those in which the cause of the disease is more or less obscure, such as cases of focal infection, or cases in which intricate apparatus is needed, as in the use of electro-cardiograms in heart cases. Patients who can afford to do so are to be charged fees payable to the university. These fees may be reduced or remitted on the recommendation of the patient's physician or other competent person, in case of persons unable to pay them.

From the plan as here outlined it may be seen that there is no attempt on the part of the university to enter into competition with those engaged in general practice but rather to be of aid along lines which require exceptional facilities for diagnosis, especially in case of patients unable to pay for services of this kind.

Aside from this development of a consulting clinic, the state has done nothing for the development and support of the clinical branches. This has been unfortunate in that it has tended to cause migration from the state of students seeking the higher things in clinical medicine instead of migration into the state. State support of clinical teaching would tend to attract bright young men into the state who on completion of their medical education would settle within the state and strengthen the medical profession. This important function of the state university is forgotten by those who would establish prohibitive fees for non-resident students. As it is, the Wisconsin boy who does unusually well at a medical school outside the state frequently becomes induced to settle near the school from which he graduates and thus becomes lost to the state. While it would be unfortunate to have the state university given a monopoly of supplying physicians to the state, it would be of undoubted value to the people if the state university played a part in the development of practical medicine and medical instruction. How might this be done with greatest advantage to the profession and the public?

It is generally assumed that the four year medical course, as now given, should be given in one place where the university, the medical school and hospitals and dispensaries are all contiguous to one another. This is the ideal set by Flexner in the Carnegie report. Flexner strongly disapproves of divided schools where the first half of the course is given in one place, the last half in another. Yet to get this efficiency that comes from concentration it is usually necessary to sacrifice the use of a large amount of clinical material not readily transported to such a center. Furthermore, the concentration and control necessary for the development of a school on this ideal tends to separate the teachers and students at the school from the bulk of those engaged in the practice of medicine in the general territory in which the school is situated.

It has seemed to me that a plan might be developed whereby students after receiving a good training in the basal sciences, in clinical and physical diagnosis and in the rudiments of clinical medicine, might be sent in small groups to well organ-

ized hospitals in various parts of the state, there to act as clinical clerks and to receive careful personal instruction from members of the hospital staff. In this way, the vital knowledge now only to be gained when the intern years come, might be acquired to a large extent during the undergraduate years devoted to clinical medicine. Whether or not the plan here suggested is feasible, I think it is clear that the state should give support to the development of clinical medicine. We should welcome at the same time such support as may come from philanthropists whether to the state university or to Marquette. We need all possible support for the proper development of clinical instruction and clinical investigation in Wisconsin.

The most direct relation at present existing between those engaged in medical practice and the medical school at the university is to be found in the State Laboratory of Hygiene. This is the laboratory of the State Board of Health and is situated at the university and supported there because of the value of having it in close touch with the medical school. It is under the control of a committee composed of the president and the executive officer of the State Board of Health, and of the president of the university and the dean of the medical school. Its purpose is to be of aid to physicians and public health officers in the diagnosis of contagious and infectious diseases and the determination of their cause. There has been a rapid growth in recent years in the number of men making use of this laboratory. The facilities for work there have been considerably extended during the past summer and it is hoped that increased efficiency will result.

In coöperation with the State Laboratory of Hygiene and the office of the State Board of Health there has been established in the Medical School a course for health officers. Since its establishment there have been a few students enrolled each year. There seems to be much interest among members of the medical profession concerning the possibilities of public health work and the opportunities that might be open to a man who would give up private practice in order to train himself for this work. While the value to the community of full time health officers adequately trained is undoubted, much education of the public will be necessary before a large number of well paid positions are likely to be open. At present, however, there seem to be fully as many positions as there are men to fill them.

The education of the public along public health lines is undertaken by the Bureau of Health Instruction of the Extension Division. This bureau "recasts technical and scientific knowledge into popular form and disseminates it through popular publicity media. It maintains a traveling exhibit, issues bulletins, furnishes popular lectures, offers correspondence courses for mothers upon the care of children and for health officers upon the principles and practice of sanitation, and in other ways endeavors to awaken public interest in public health matters." The way is thus being prepared for increasing the opportunities for well supported public health work. A similar campaign is likewise carried on by the State Board of Health.

Since the establishment of the medical school we have looked forward especially to getting physicians in the state active in clinical research in close touch with the scientific laboratories at the university. The most notable of the results thus achieved are those obtained in Hodgkin's disease by coöperation between a surgeon in Milwaukee and the professor of pathology at the university. We hope to see coöperative work of this kind greatly extended in the future. Those of us at work at the university want to keep in touch with the men throughout the state who are eager for the higher things in medicine. We know that we, at least, can profit greatly by friendly coöperation of this kind.

DISCUSSION.

Dr. Hoyt E. Dearholt, Milwaukee: Mr. President, Ladies and Gentlemen: I will confine whatever discussion I give to a word on the extension work. This was established, I think, in recognition of the principle that no education could be more important for the general public than that which has to do with the fundamental facts which the public needs to know in order to live In other words, it was felt that it is as important for a university like the University of Wisconsin, which has the high service ideal to the entire public, to teach the public fundamental facts on their health and the common diseases. And it seems to me that this is of service also to the medical profession, because the meeting this year has demonstrated the large number of contact points between the physician on the one hand and the general public on the other.

The University Extension Division, through its bureau, hopes to act as a medium for the interchange between the general public and the medical profession. As the chief of this bureau I want to solicit from the physi-

cians of Wisconsin such co-operation as they can give, and I certainly, speaking personally, need all of that assistance that I can get. On the other hand, I think that I am warranted in offering any services to the profession that the Extension Division can give along such lines as the cancer investigation, the publicity arrangements that have been provided for by the appointment of a new committee in this Association, etc.

It seems to me that, just as the anti-tuberculosis movement had its inception in the Medical Society, from the recognition of the importance of doing much in the direction of the treatment of tuberculosis with unintelligent patients, the same principle is applicable in the direction of a number of diseases, and we want to do all that we can to further the wise and best practice of the physician. (Applause.)

DR. G. E. SEAMAN, Milwaukee: As a member of the Board of Regents of the University, and the Chairman of the Committee on Medical School, I assume that for the time I may be in the position of a connecting link between the public, as represented by the Board of Regents, and the medical profession, and the medical school.

The medical school of the University has made slow progress. They have developed along very conservative lines. The question of the extension of the Clinical Department, and, ultimately, the completion of the medical course, is a very grave question with us, situated as we are, in Madison. I think that we are justified in saying that the first two years of the medical course is given at Madison perhaps quite as well as in any other school in this country. I think that fact is admitted among medical educators.

The development of the Clinical Department calls for the co-operation of the medical profession. It is the desire of the Board of Regents, of the medical faculty, of all who are interested, to develop the Clinical Department along the very best lines and with the co-operation and friendly support of the medical profession of the state, and in obedience to demands of the public, and this last step that has been taken, of opening the clinical department to the public, was a tentative step. It was definitely stated in the Board when this was determined upon, that it probably would be subjected to early and to considerable modification, and it is a try-out. We want and need and must have the co-operation of the medical men of the state and of the public who are interested in making the Clinical Department, when it becomes a complete department, as good as the first years of the medical course—creditable to Wisconsin. We do not want to go too fast, and we do not propose to go too fast. At the same time, the policy has been announced of the development of the complete course in medicine.

I have been very much interested in the development of this course in hygiene. Several years ago, in an address to the State Medical Society, I brought up this subject and urged the establishment of a course. As Dr. Bardeen has said, a few have availed themselves of the opportunities thus afforded. Those who have trained themselves for health work have succeeded in every instance in obtaining very desirable work along these lines.

It has been rather a matter of surprise and of a little regret to me personally that more physicians have not gone into distinctly health work. When the appointment of a health officer is up in any of the larger cities of the state, the desire of the medical profession as a whole, and the desire of the intelligent members of the community is that a man shall be selected for the position who has some special training. And yet, medical men are slow to recognize that here is a very attractive specialty in medicine, and, in fact, a department of medicine, which distinctly occupies a prominent place in the line of advancement, which has not attracted the number of men that it should attract. I hope to see a good development in co-operation with our very excellent Department of Health, recently reorganized, or amplified, by the law that was passed by the last legislature, and I trust that this department of the University will become more popular and more effective.

There are a number of questions that I should like to dwell upon, but I will not take the time. There is one thing that is in the nature of a side issue, however, that I wish to speak of, and that is the cost of instruction. Dr. Bardeen referred to it.

The percapita cost of instruction in this state, especially to non-residents, is a matter of public discussion at this time, and it is urged that we should charge the full per capita cost of instruction to non-residents. I would like to point out two or three facts in this connection. First, the cost of instruction to non-residents at the University of Wisconsin at the present time, is $124 per year. This fee is more than twice as much as is charged by any other state university in America. Second—and perhaps it ought to be first—no university in the world worthy of the name, has ever been conducted on the basis of demanding from the student dollar for dollar for everything that he obtains at that university, and no educational institution could ever be conducted successfully upon that principle. The public should know that, or at least should realize it. And this discussion of exacting the pound of flesh in every instance would cease, if there was more intelligence on the part of the public and more honesty on the part of the men who seek office upon what they conceive to be a popular cry.

Another thing in this connection: We send more students from Wisconsin to other universities than other states send to the University of Wisconsin.

For instance, we send more students to the University of Minnesota from the state of Wisconsin than the state of Minnesota sends from Minnesota to Wisconsin. And this is true as to some other states. This should be taken into consideration. If Wisconsin starts this movement to exact in every instance the pound of flesh, then we are to expect that other states will assume the same attitude toward education, and what is to become of the broader aspects of the question?

DR. J. VAN DE ERVE, Milwaukee: I would like to have just a moment. What I have to say may come with good grace from an officer in a rival institution—no, that is not the word that I ought to use—in a sister

institution. The two institutions are correlating their course, and are in perfect alignment, as far as entrance requirements and other things are concerned. And so I believe with Dr. Bardeen that the time is about ripe for the state to institute these clinical years and start them at Madison too. I was of the opinion at one time that it ought to be Milwaukee and Milwaukee only. I said before, but had no time to discuss it, that the state needs about a hundred doctors a year, and that, if you grant that we can handle about 50 students to a class and graduate them, there is room for two institutions. If that is so, then we ought to at once establish the clinical years at Madison. And the state should aid that, and state support ought to be very very liberal indeed. Dr. Beffel has emphasized once again that medicine is a function of the state. We may not all agree as to that, but at any rate, as far as the function of education in medicine is concerned I think with Dr. Bardeen, that it is a perfectly proper thing to establish the clinical years at Madison in some such way as he suggests. In Alabama, where I came from, it is the policy carried out—I mean that feature of it, sending the students as clinical clerks to neighboring larger hospitals. I think that may not be necessary. I think Vancouver City has met the criticism that the small town is unable to give clinical material. It is a city of twenty-five to thirty thousand, and Madison has at least that, and is arranging to furnish clinical material with the hospital that may be present.

I think that the last feature that he emphasized, of public health work ought to be emphasized, and as has been done by Drs. Seaman and Dearholt, because the time is coming when every little town and hamlet in the state will look to its doctor for public health instruction, and instruction on sanitation. I think the course is given in the summer, in a measure, and one man from every town ought to begin next summer to take that course and get some proficiency in public health work.

Dr. L. R. Head, Madison: I approve in large part of everything that Dr. Bardeen has said, and I want to approve in every way of the two years medical instruction that the University students are getting at Madison. We have an admirable course. Nobody can be more in sympathy with that than I am. And the profession of the state, I am sure, are also in sympathy with it. But when it comes to the establishment of the clinical courses which the present establishment of the Clinical Department at the University must involve, I think somebody should offer a note of warning. I do not believe, and I have been consistent in that belief, that a clinical course should be established in Madison or in Milwaukee.

I recall a conference ten years ago with Dr. Birge and President Van Hise, in which I, when asked regarding that, voiced the same sentiment that I voice now, that Madison is too small a place. The clinical opportunities there afforded are entirely inadequate for a first class medical institution. We have a first class medical department for the first two years, and I should be very much grieved to see the establishment of a further two years that would cause the whole course to be deteriorated, and I think unquestionably that would be inevitable.

If you look over the country you will find that in all times it has been regarded as necessary, practically in most cases, for medical institutions to be located in large centers, where there was an abundance of clinical material, and if that were so thirty and forty and fifty years ago, how much more so is it necessary since the evolution, or the revolution in the teaching of medicine has come in.

Thirty-five years ago the students of Rush Medical College saw very few cases at the bed-side; their interneships were few, and most of their lectures and teaching was of a didactic nature.

To-day the reverse is true. There has been a complete revolution in the teaching of medicine and the preparation of medical students. And the one fundamental essential thing in the proper teaching of medicine in the last few years is the abundance of clinical material. Now if anybody can solve the problem of getting an abundance of clinical material in a city of thirty thousand inhabitants, they have solved a problem that has not been announced. It cannot be done. And I want to make that note of warning emphatic, that it cannot be done. I live at Madison; I know the conditions there; we have two hospitals; they accommodate 250 patients; they are about half full; and the country tributary to Madison is worked to the limit. I say that advisedly, it is worked to the limit, and yet there is not a sufficient medical course. The Faculty in Medicine will probably retort to this remark that there isn't any medical skill in Madison to warrant treating patients there. I will admit that, because I have to admit it. But there is very good surgical material in Madison, and that surgical material is worked to the limit to-day, and yet the hospitals accommodate 250 patients and are about half full. Now if that is adequate material to found a clinical course of medicine on, then I have misapprehended all past experience.

I am proud of the University. As I said the other evening, I am a graduate of the University, and I have a son that is a graduate, and I have innumerable relatives that are graduates. All my affiliations for twenty-five years have been in Madison, and I yield to no one in loyalty to the University, and I would hate to see anything happen there that would cause it to deteriorate from its present standard. We are proud of it as it is now. I should dislike to see a four-year course inaugurated there, and have to admit that it was a second or third grade medical school.

If you look over the country you will find that the medical schools that amount to anything are in large centers. Harvard, Yale, Chicago, Columbia, and all of the rest of the prominent medical schools are in large centers where there is an abundance of clinical material. And we do not need to take a second rate place with regard to any institutions in the country, and we do not have to with regard to our two years course. Our students go from Madison to Johns Hopkins, to Columbia, to Harvard, and become first rank. And that should be our aim, to prepare men for the clinical schools in larger places, and be content with that preparation.

THE PATHOLOGY OF REPAIR OF FRACTURES OF BONE WITH ESPECIAL REFERENCE TO THE PATHOLOGY OF DELAYED AND NON-UNION.*

BY H. F. DERGE, A. B., M. D.,

EAU CLAIRE.

During the past twenty years the consideration and treatment of fractures has demanded and ungrudgingly obtained the well merited attention of the medical profession. Within these two decades we have seen a very radical change creep into our general plan of treatment of these fractures, until today we find surgeons who have the inclination to treat with active surgical intervention every fracture of a long bone. As a direct result of the activity of the surgeon in this field of endeavor, a strong impetus has been given to a clearer conception of the pathological changes which take place between the inception of the injury and the final restoration of the integrity of the fractured bone. Thanks to his zeal, the opportunity has again been afforded to make in vivo complete and exhaustive studies of the various phases and factors present in the kaleidoscopic processes of the repair of fractures. Today the surgeon sees daily in the operating room the different stages through which a fractured bone proceeds to complete union and this constant familiarity naturally has aroused his interest, with the result that important contributions to the subject of the pathology of fractures have come from his endeavors. But as so frequently happens, the pathology that he has contributed is intimately bound up with the efforts of his handiwork. Nowhere is this more true than in the pathology of the fracture of bone. Depending on whether he elects to treat a fracture with the application of a silver plate or introduction of a bone splint, the pathological picture is strikingly modified. In any treatise of this subject it is essential therefore, that the variations in the pathological picture resulting from the introduction of external agents should be adequately discussed, for as clinicians we are all deeply concerned to what extent and to what useful purpose our active interference has influenced the normal process of repair. Before proceeding, however, to this ultra-practical and alluring phase of the subject, one must first obtain a clear conception of the process of repair of a simple fracture.

The term simple fracture as here employed, refers to a fracture where the reapposition has been easily and completely obtained by the so-called closed method with a minimal amount of traumatism to the bone ends and surrounding tissues. In such a fracture, there is present practically simultaneously with the break in the bone, a hemorrhage of varying extent in and about the fractured ends. This extravasated blood produces an irritation of the surrounding cells and as a consequence produces an irritation of the nearest capillaries. As early even as the second day after the injury abundant karyokinetic figures can be observed in the cells of the periosteum, medullary and adjacent fibrous tissues and vascular endothelium. From the neighboring capillaries, particularly those from the medullary portion of the fragments, end buds are sent out into the blood clot, which gradually bring about its resorption and conversion into a mass of granulation tissue, consisting for the most part of anastomosing end buds and capillary loops. This granulation tissue is well formed at the end of the first week and represents an early stage in the formation of the so-called internal callus. As the blood clot gradually is absorbed and gives way to the granulation tissue, so the latter by the end of the second week becomes replaced by a mass of connective tissue. While these changes are progressing in the medullary portion of the ends of the fragments an external callus is deposited between the cortical portion of the bone and periosteum, also an intermediate callus between the external and internal callus. Toward the end of the second week all three calluses in the adult consist chiefly of fibrous tissue with here and there microscopic evidence of beginning cartilaginous change and ossification. This ossification is effected by three osteogenetic forces, the osteoblasts of the subperiosteal layer, the osteoblasts on the walls of the blood vessels in the Haversian canals of the compact bony tissue, and the blood vessels or capillaries that bear the osteoblasts in the medulla. Through the activity of these osteogenetic elements considerable cancellated bony tissue is deposited in the calluses as early as the third and fourth week after the injury and in the areas where this ossification proceeds on the walls of the blood vessels, cylinders of bone

*Read at the Sixty-eighth Annual Meeting of the State Medical Society of Wisconsin, Oshkosh, Oct. 8, 1914.

are laid down around these blood vessels, which later form the lamellae in the medulla and in the compact bony tissue. As the ossification of the external, internal and intermediary callus proceeds there is an orderly resorption of any dead or excess bony tissue, which endeavors to restore the uniting and encasing callus to as nearly the same type of tissue as the normal bone fragments which it is attempting to unite. This important work of clearing away the debris and rounding off the rough edges is performed by the osteoclasts, which like the osteoblasts are brought in on the walls of the blood vessels and inner layer of periosteum. With the completion of this osteoporosis the union of the bone is practically complete.

Before dismissing the subject of the process of repair in simple fractures it will be convenient and interesting to speak rather briefly regarding the role played by the periosteum, medulla and dense bone in the process of regeneration and repair. While all pathologists and clinicians are agreed on the various successive changes which a fracture undergoes in the process of healing, they are far from agreed as to the part played by the different osseous tissues in bringing about these changes. Of late years, an immense amount of work has been done on this phase of the subject and scarcely a month goes by but some important addition is made. Naturally the part played by the periosteum has dominated these discussions. To the question whether the periosteum can and does produce bone, the answers have been yes and no. Those who answer yes, have as champions of their cause the distinguished investigators Axhausen and Ollier; while those who cry no, follow the able leadership of Macewen of Glasgow. Axhausen, who espouses the universally accepted view in Germany, maintains that the periosteum is the all important factor in bone growth. Macewen, on the other hand, has proved that the living bone is the chief source both of regeneration and repair and that it can occur in the absence of the periosteum. It is evident that the solution of this question is not to be found in the study of the fractured bones, for it is obviously impossible to tell whether a given mass of external callus is derived from the overlying periosteum or the covered cortical bone; and yet the observation of E. W. Hey Groves that in the callus of some of his experimentally produced simple fractures, the process of repair, which consists in cartilage being converted into bone, "proceeds from the surface of the bone outwards towards the periosteum and not in the reverse direction", seems to add its little mite against the osteogenetic faculty of the periosteum. Just how the investigator must proceed to answer this question is not difficult to surmise, and at first thought, the line of experimentation to be followed seems to be so simple that one cannot understand why such a diversity of opinion should exist. It would appear as if one had only to transplant a fragment of living bone denuded of its periosteum and a strip of periosteum free from bone in different parts of the muscle, and after a given interval of time, examine what has happened to the transplants, to determine which tissue possesses the osteogenetic force. Simple as these experiments seem to be they are very difficult of execution and depend absolutely on one's conception of the histological structure of the periosteum. If the periosteum consists only of two layers, the thick inner, composed of connective tissue bundles and elastic fibers and the thin outer, composed for the most part of a close network of blood and lymph vessels together with the nerve plexuses, it is rational to conclude that it possesses no osteogenetic power, for connective tissue cells, *per se,* can never change into bone cells. On the other hand if one includes the layer of the osteoblasts with the periosteum, the latter certainly produces bone. Thus it is evident that it is this layer of osteoblasts which is the all important factor and that the diversity of opinion that has arisen is primarily due to the fact that it is practically impossible to always leave these osteoblasts just where one desires. If a sufficient number cling to the transplanted periosteum it can reproduce bone, if not, it fails. Considered in this light, it is the layer of osteoblasts which lies between the outer surface of the cortical bone and inner surface of the periosteum that is the determining factor in the ossification of the callus and not cortical bone and periosteum themselves.

Though the periosteum plays a negligible role in the ossification of the external callus it is very active in its formation. Consisting as it does of a connective tissue tube richly supplied with blood vessels and normally functioning as a limiting membrane and source of blood supply for the cortical bone, its connective tissue cells and elastic fibers respond quickly to the irritating influence of the injury by rapid proliferation and as a direct result of this proliferation, a considerable

portion of the external callus is formed. The remainder of the callus originates as granulation tissue on the outer surface of the cortical bone and in instances, where the periosteum has been removed or severely injured, from the contiguous connective cells of the soft parts. Finally, should the osteoblasts fail to ossify the callus, nature may have recourse to the more obscure method of cartilization with subsequent conversion into osseous tissue by excessive deposition of lime salts or even, as some authorities assert, by the direct transition of osteoblasts into cartilage cells.

Varying as are the conceptions of the part played by the periosteum in the process of bone repair, fortunately most authorities are agreed concerning the role of the medulla and dense bone. The former builds up the internal callus and supplies the osteoblasts on the walls of its anastomosing capillary end loops, while the latter contributes the intermediate callus in the form of granulation tissue made up of the proliferating capillaries from the Haversian canals.

As is to be expected, perfect anatomical apposition and complete fixation of the fragments, in the absence of constitutional disturbances or loss of the osteogenetic force, result in an early ideal repair with a minimal amount of callus and only slight deviation of the bone from normal. We speak of healing by first intention in the case of wounds of the soft tissues when the severed tissues are so accurately approximated to each other that the union proceeds with the minimal amount of cementing material. Just so it is with fractured bones. Other things being equal the more perfect the apposition the better the union. Infection, excessive destruction of bone, failure to reduce and immobilize the fragments properly, interference with the blood supply, and introduction of foreign bodies and bone splints all operate to influence markedly the process of repair.

Infection plays its chief role in the compound fractures. In these fractures there is usually external bleeding and as a direct result there is a marked reduction or absence of the blood clot, which plays such an important part in supporting the capillaries from above and below. What little blood is present in the tissues becomes an excellent culture material for the micro-organisms introduced from without and instead of being a distinct aid to the process of repair by forming the primary scaffolding for the young connective tissue cells, it becomes actually a serious detriment. As the end buds of the capillaries, lymphocytes and connective tissue cells grow out into the infected area they are quickly overwhelmed by the toxins of the micro-organisms and reduced to pus. Nature however wages a relentless battle. Its cells are sacrificed by the millions but gradually the survivors in the deep layers of the connective tissue increase in numbers until finally they bridge across and meet their fellows on the opposite side to form a healthy granulation tissue between the two fragments. From this point on the process of repair is identical with that described in a simple fracture.

Excessive destruction of bone occurs frequently in comminuted fractures and the query as to how repair proceeds with the numerous isolated bone fragments interposed between the two major fragments, is a very pertinent and logical one. When treating such a fracture one naturally inquires, what becomes of the fragments and how do they modify the general process of repair. Do they materially lessen the chances for a good anatomical and functional result? Experimental studies as carried out by Groves demonstrate that every one of these isolated fragments of bone "acts as a center of active bone proliferation and forms a firm mass of ossified callus." The callus formation is more rapid and greater in amount than in a simple fracture and while the functional result may be just as good as in a simple fracture, the anatomical result suffers because of this excessive callus. Fortified with this knowledge, the treatment of comminuted fractures of the long bones ought not unduly to worry the physician and surgeon.

Failure to reduce and immobilize the fragments properly may and often does lead to serious complications in the process of repair. The deformities that attend improper reduction are too numerous to even mention and while most bizarre unions of fragments occur, for reasons of brevity and simplicity I must confine my remarks to two interesting pathological variations, delayed and non-union. Since the advent of the open treatment of fractures with the application of silver plates and introduction of intermedullary bone splints, especial interest has developed in the pathology of these two types. To be more exact, the interest has been centered upon the non-union type rather than upon the delayed union, as the latter merely refers to those instances where the ultimate union has been

unduly delayed, with subsequent satisfactory healing.

While failure to reduce and immobilize the fragments properly is often the inciting cause for the deviation from the normal process of repair which eventually leads to non-union, other factors must operate to bring this about. That such is the case is forcibly impressed upon us when we see fragments, though practically in perfect apposition, show no signs of repair. Tersely stated, non-union may occur whenever the process of repair is arrested in any one of its stages. In compound fractures the external bleeding and absence of a satisfactory blood clot, the breaking down of the blood clot as the result of a virulent infection, and the interposition of fibrous tissue, muscle, or fascia as a result of the contraction of the fibrous bridge between the fragments, may singly or collectively operate to bring about non-union. In simple fractures the direct interposition of the soft tissue, the formation of a cystic blood clot and complete failure of the osteogenetic forces may lead to a similar result. The *modus operandi* of the soft tissue is so obvious that it can here be dismissed by the mere mention, even though it is the commonest cause for non-union in simple fracture. Not so with the other two causes. The formation of a cystic blood clot while a rare occurrence is intensely interesting because it results in the development of a true false joint or true pseudo-arthrosis. This is brought about in the following manner. The primary blood clot instead of forming the initial scaffolding for the young connective tissue cells, becomes surrounded with a layer of flat endothelial cells derived from the endothelium of the lymph spaces and resembling the endothelial cells of the synovial membrane. With the absorption of the solid elements of this encased blood clot, a fluid, resembling synovial fluid, remains to fill the center of this endothelial lined sac, which as a cyst between the bone fragments prevents union. Interesting though this type of non-union may be it fails to hold one's attention as does that type where for some mysterious reason the osteogenetic force is absent. With the bone fragments to all appearances joined together firmly with a soft callus there is an entire failure of effort on the part of the osteoblasts of the deeper layer of the periosteum, the osteoblasts on the walls of the Haversian vessels in the compact bony tissue and of the osteoblasts in the medulla, to reproduce bone. Each and every one, or all, may make no effort at reproduction of bone or deposition of calcareous material. Just why this is so has not been determined. There are some who would explain this loss of osteogenetic force as due to a constitutional disturbance, but in the light of J. B. Murphy's brilliant work in the transplantation of bone splints, it would seem to be due rather to a local condition. In treating this type of fracture Murphy simply joins the ununited fragments of bone with a bone splint, obtained from another bone of the patient, usually from the crest of the tibia coupled with complete fixation. This is all he does and yet the process of repair proceeds uniformly and smoothly to a perfect functional union. Surely there can be no doubt that the loss of osteogenetic force is merely a local question with the fractured bone.

According to Murphy the role of this transplanted intermedullary bone splint is purely a passive one, that is, it acts as a suitable and enticing scaffolding for the osteoblasts to climb and become active upon. Into its Haversian canals grow the budding capillaries from the medulla and Haversian canals of the fragments, carrying with them the osteoblasts and osteoclasts. Simultaneously with the deposition of new bone through the activity of the osteoblasts, the bone of the transplant is gradually broken down and absorbed by the osteoclasts, until not a vestige remains. In time the medullary cavity becomes restored and there is built up a united bone which cannot be distinguished from one healing by the ordinary process of repair. The assertion, however, that the transplanted bone is merely osteo-conductive has not passed unchallenged. One must remember that every transplant used by Murphy is living bone, full of active osteoblasts and in practically all instances has been supplied with periosteum. That these same living osteoblasts may activate their dormant fellows in the ununited fragments is not impossible, especially as no experiments have to my knowledge been made to prove to the contrary. It would seem as if the burden of proof that these osteoblasts possess no chemotactic or stimulating influence rests upon those who adhere to the osteo-conductive role of the transplanted fragments. Again just what would happen if these transplants were entirely denuded of periosteum together with its underlying stratum of osteoblasts or devitalized by boiling, is purely a matter of conjecture. If

bone transplants treated in this fashion served to stimulate the process of repair just as do the fresh transplants supplied with a periosteum, then the assertion that the role of the transplanted fragment is osteo-conductive and not osteogenetic is proved. On the other hand, if they fail to call forth the osteogenetic forces of the fragments, then the transplants must be credited with both oesto-conductive and osteogenetic properties.

There still remain for discussion two factors which operate to modify the process of repair, namely, the application of metal plates and interference with the blood supply of the fragments. While the primary object of the metal plate is to hold the fragments in good apposition until union is accomplished, it nevertheless influences more or less the process of repair. Since this so-called "plating" method has become popular, surgeons have observed that union has been occasionally delayed, and it has been generally assumed, that this was due to the fact that the plate held the fragments so firmly that the ends were deprived of that stimulating irritation resulting from slight mobility which was operative in the closed treatment of fractures. Recent experiments by Groves, however, seem to prove that perfect immobility, next to perfect apposition, is the essential criterion in the open treatment of fractures. In every instance where the immobility was complete for a sufficient length of time there was rapid and satisfactory union with the minimal amount of callus thrown out. This was in marked contrast to those cases where the screws of the plates loosened and the fragments were allowed to move quite freely. Here almost without exception infection and vicious union resulted. Indeed, Groves goes so far as to assert that "sepsis is often the result, and not the cause of inefficient mechanical fixation". Granting that immobility is not the cause for delayed union in plated fractures, the fact remains that since the introduction of this open method the cases of delayed union have increased. Practically every surgeon with a large fracture clinic will attest to this fact. This being the case, it is plainly obvious that the application of plates does somehow or other occasionally delay union. There is every reason to believe that this is sometimes due to the fact that the bone fragments do not make intimate contact with each other, that is, living bone does not join with living bone, being held apart even by the very plate which joins them; at other times, by a disturbance in the blood supply of the ends of the fragments leading to what is termed by Groves, "suspended vitality". And I have a strong suspicion that a considerable percentage of these instances of delayed union are due really to too much rather than to too little mobility. While the fragments are held rigidly immediately after the operative fixation, the screws gradually loosen until by the end of the first and second week the screw holes into the bone become so enlarged that the same screws drop loosely into the holes, and if the surgeon has not taken the precaution to carefully immobilize the fragments with external splints or casts, marked mobility and even displacement will result. Provided the metal plates are firmly attached to the bone no irritating effects are produced on the tissues, no matter what the size of the plates may be; but if the plates are applied so as to permit constantly recurring movement, bone absorption, fluid collection, sinus formation, and sepsis may occur. In short, a plate properly applied tends to hasten the ideal union with a minimal amount of callus formation and its ultimate removal is entirely a matter of comparative indifference.

In conclusion I must speak briefly of the practical value to the clinicians of a clear conception of the process of repair in fractures. Fortified with the knowledge of what nature can do in the way of healing broken bones and how she proceeds to bring this about, the clinician cannot fail but obtain better results in his treatment of fractures. He knows:

1. That the process of repair begins practically with the formation of the blood clot, which he recognizes as a distinct aid and not as a detriment.

2. That cancellated tissue is present in the callus as early as the third week and that by the end of the fourth week it may be so excessive as to be a distinct handicap in the ready treatment of fractures by the open treatment.

3. That almost invariably the osteoblasts adhere to the periosteum and as these osteoblasts can reproduce bone, it is imperative that the periosteum should be preserved wherever possible.

4. That the medulla of the bone forms the internal callus and should not be disregarded in the open treatment of fractures.

5. That the perfect anatomical union is dependent upon perfect apposition and complete fixation with perfect freedom of all soft parts and joints.

6. That isolated fragments of bone may each be the center of ossification and repair and that consequently in the treatment of comminuted fractures, the best method is that of fixation of the main fragments leaving the small pieces in the best possible position between the major fragments.

7. That non-union may occur as a result of the failure of the process of repair in any part of its course. With the fragments in the best of position and thoroughly fixed, non-union may still occur because of the absence of osteogenetic force.

8. That the introduction of fresh bone splints into the medullary cavity of the fragments leads to complete and satisfactory union.

9. That the presence of an aseptic metal plate in the tissues has no ill effect on the healing of the tissues.

10. That owing to the absorption of bone around the screws, the screws in the bone readily become loosened and permit the fragments to move upon themselves, resulting sometimes in delayed union.

11. That the fragments must come in intimate contact with each other, that is, living bone must approximate living bone.

12. That living bone is the main source and origin of callus, which grows chiefly from its outer surface and to a less extent from its medullary surface and its cut ends.

DISCUSSION.

DR. F. GREGORY CONNELL, Oshkosh: A familiarity with the miscroscopic changes in the process of repair of fractured bone is of course an essential requirement in one who assumes the care of a broken bone.

Debatable ground is entered upon in the consideration of the part played by the periosteum in this repair. We may fully agree with the essayist that the difference of opinion may, in part, be explained by different understandings as to what constitutes the periosteum. If osteoblasts are included, the periosteum will form bone; if not, the periosteum is not osteogenetic. The varying presence or absence of these cells, which may not always be regulated, may account for the conflicting results of experiments.

At the present time we are justified in preserving the periosteum and treating it with respect in open treatment of fracture and in bony transplants. On the other hand experimental and clinical evidence has shown the advisability of retaining fragments of bone in comminuated fractures even though these fragments be entirely separated from the periosteum.

The periosteum may or may not play a part in the ossification of the callus, but it does play an important part in the production of the callus. As may be well seen in the a-periosteal amputation of Bunge, in which the periosteum and endosteum for ¼ inch are removed from the cut end of the bone. In consequence no bony projections develop and a serviceable, smooth, weight-bearing stump is secured, which is very rare in the periosteal cuff method of treating the end of the bone.

The important causes of non-union are (1) fibrous tissue interposition, which is of course effectual when present; (2) cystic blood clot, which as Dr. Derge says is rare, personally I have never seen such a condition; and (3) "failure of osteogenetic forces"—but the cause of this failure has not been determined. It was thought to be due to a general or constitutional disturbance. I recently heard a prominent surgeon say that in every case of non-union, since a certain date, the number was not given, he had secured a positive Wassermann reaction. But union in some and non-union in other bones in cases of multiple fracture, such as non-union of the radius with solid union of the ulna in fracture of the forearm. (I have personally met with two such cases), speaks most strongly against any constitutional or general cause.

Another explanation rests upon the assumption of an alteration in the local blood supply, the "suspended vitality" of Groves; this has not yet been confirmed. The cause of non-union is unknown, and in consequence attempts at treatment have included practically everything, such as: motion and irritation of the broken ends; the giving of K. I., or phosphorus internally, the local injection of blood or an emulsion of periosteum, hyperemia, the X-ray, and secure fixation of the ends by metal plates or bone graft.

It was soon learned that union did not always follow the use of the plate in cases of non-union and that non-union was not uncommon after plating. And the use of the plate in cases of non-union was warned against by many, such as Lane, Edward Martin, Murphy, Albee, Brinkner and others; the explanation being that the plate held the fractured ends in such perfect apposition that there was not the necessary irritation, from slight motion, to call forth osteogenesis, and hence no bony union. This explanation has been questioned, and it is more rational to agree with the essayist that the non-union is due to too much motion, due to late loosening of the screws, or to circulatory changes in the bone, due to the presence of the screws or plate, or to the plate actually holding the end apart. The latest method of treating non-union, is by an autogenous bone graft as advocated by Murphy and Albee. (This method seems to have met with universal success, and the case of which I shall speak in which it was unsatisfactory, judging from the literature, is quite unique.)

As to whether the satisfactory result is brought about

by osteo-conductivity, or by osteogenetic stimulation, appears to be academic, in all probability both elements are factors. Pfemeister seems to have shown that it is an osteogenetic stimulation, but this should not lead to a disregard of Murphy's rule regarding the graft contacting with living bone.

A choice is offered as to the location of the graft, either as an intra-medullary plug, in a groove, or merely as an external patch, satisfactory results are reported in each location. My only experience has been with the intra-medullary plug, which I found practicable and easy of execution. But the method of Buchanan, placing the graft in a groove, with the histological elements layer for layer, periosteum to periosteum, cortex to cortex, and endosteum to endosteum, seems ideal, and more favorable for rapid union.

My personal experience in operation for non-union consists of eight cases as follows: Tibia, 4; Radius 2, compound 1; Humerus, 1; Femur, 1.

Operative procedures and results.

1. Tibia, 1st operation—Ivory peg.
   2nd operation—Silver wire, non-union.
   3rd operation—Parkhill clamp.

2. Humerus, 1st operation—Silver wire.
   2nd operation—Lane Plate (another surgeon, non-union).

3. Radius—Removal of fibrous tissue, chromic catgut, non-union.

4. Radius—Lane plate (only one screw in each end, incorrect). Primary union, subsequent sinus, removal of plate, non-union.

5. Femur—Silver wire, infection, removal of wire, union.

6. Tibia—Plate, union.

7. Tibia—Plate, infection removal of plate, union.

8. Tibia—Autogenous intra-medullary graft, primary union, absorption of graft non-union, (Subsequent use of Lane Plate by other surgeon followed by union).

Non-union, 5; Tibia, 2; Radius, 2; Humerus, 1.

1. Tibia—1st. ivory peg.
   2nd. silver wire.
   3rd. Parkhill clamp.

2. Humerus—1st, silver wire.
   2nd, Lane plate.

3. Radius—Removal of connective tissue chromic catgut.

4. Radius—Lane plate.

8. Tibia—Bone graft.

Union, 3; Tibia, 2; Femur 1.

5. Femur—Silver wire.

6. Tibia—Lane plate.

7. Tibia—Lane plate.

By transferring case 8, non-union of tibia following bone graft, to the union group, following the subsequent Lane plating, leaves the results as follows:

Union 4, Non-union 4.

Dr. Wilson Cunningham, Platteville: I cannot add much to what the essayist has said with reference to non-union, but there is one point I would like to elucidate, and that is the peculiar idiosyncracy of most of the patients where you find either delayed union or non-union.

Why it is that we have a delayed union or a non-union, we do not know. The patients that I have had experience with are individuals who are in the prime of life; they are strong, robust, apparently healthy individuals; and still, in those very patients where you would expect under ordinary conditions a good firm union, you will find either a delayed union or an absence of union.

Many cases we first think of as delayed union. It is a little hard to draw the line exactly between a delayed union and a non-union. In what first appears as a non-union, after a certain length of time, and after proper treatment—did I say proper treatment, it makes little difference sometimes what the treatment is,—a condition that appears as a non-union you will find to be really a delayed union. On the other hand you may take a case of non-union, and treat it by bone plates, and you may open, denude your ends, brings the parts in perfect apposition, cover the ends with your periosteum from each side, or you may put on Lane's plate, and you may wire, you may do what not, and you will probably have failures in three out of five of those cases. And you may repeat that process of endeavoring to bring perfect apposition between the bones and to hold them in proper position a number of times, and sometimes it is evident that you are getting a favorable result, but in many of the cases you will repeat this process without success. And this will not be the case of people who are debilitated, not in young individuals, nor old persons; it will occur in young adults in the prime of life.

In other cases you may have a fibrous condition form, —a pseudo-arthrosis. I have one such case as that developing in a case of a fracture of the humerus, after repeated efforts during a number of years to obtain union by wiring. This was before the time of Lane's plate. I still have a non-union, but there is a perfect arthrosis there. The man works every day, has no pain and no trouble, but with a pseudo-arthrosis. I had two other cases of apparent non-union, where, after putting them on their feet with braces, I finally got union.

I had a case last fall of apparent non-union in the femur, after opening up and denuding the ends I put on a Lane's bone plate, although covering it over with a periosteum, securing perfect apposition and retention afterwards, in an individual 35 years of age, apparently strong and robust there was no union. This was after getting non-union after the usual treatment. After putting this patient in an ambulatory splint, and encouraging him to walk, I finally got union.

Within a year I have had a case of fracture of the radius and ulna in a man in the prime of life, a healthy individual, a good robust farmer. There was a fracture

of both bones, perfect apposition as far as I could tell with the X-ray, still no union. Opened by operation, got perfect apposition, used bone plates, still no union. Repeated the operation. The individual still is without union. He is able to use his arm at the present time, and goes about ordinary work on the farm, being careful, but still there is non-union. It is hard to determine why we do not have a union in those cases.

OPEN TREATMENT OF FRACTURES.*

BY JOSEPH F. SMITH, M. D.,

WAUSAU.

The introduction of the X-ray as a means of accurate diagnosis in fractures has served to emphasize the shortcomings of the methods generally employed in the treatment of this class of injuries. The fact, too that the patients have this means at hand for ascertaining the exact conditions obtained as end results, has imposed upon the medical profession a greater sense of responsibility in the diagnosis and treatment than formerly. The legal and financial responsibility carried with the general employment of X-ray diagnosis has given an impetus to the search for methods of securing and maintaining more accurate coaptation of fragments.

The brilliant work of Mr. Lane and others excited a deep interest both in the profession and among the laity, and naturally, the publication of his technique and brilliant results have attracted many followers in this method of treatment. As is usually the case in the employment of new remedies or procedures, enthusiasm ran high and the open treatment of fractures was undertaken under all sorts of conditions and by men indifferently prepared both for judicial decision as to *when* to use the method, as well as *how* to carry out the procedure. Other medical men, having large fracture experience and facilities at hand for careful aseptic work have also employed this method extensively and compared the results with the more conservative methods. We may, therefore, at this time gather from the extensive literature on this subject, a fairly accurate estimate of the value of this procedure, both as to its limitations and end results.

The advantages of open treatment are numerous; the ability to secure accurate apposition, to remove interposed muscle or fascia strips, blood clots, etc., to repair injured nerves or remove them from the zone of harmful pressure, to secure and ligate bleeding vessels, all appeal to the surgeon as desirable features of ideal treatment.

On the other hand, the dangers of compounding simple fractures and the addition of operative trauma to the tissues already extensively injured are factors to be seriously considered. Every one of experience who has written upon the subject has emphasized the dangers of introducing infection in those cases and enjoined the same careful technique requisite to abdominal work. It has been shown that after fixation by internal splints callus formation is markedly lessened and cases of non-union have followed this method of fixation, even in the hands of most careful and skillful surgeons. In the fixation of compound or infected fractures by any method requiring drilling and the placing of screws or nails into the medullary canal, the introduction of septic material into the medullary cavity, where it is shut off from free drainage by coaptation of the fractured ends, may result in the most severe sepsis. Numerous cases of extensive osteomyelitis, general sepsis and death have resulted from the failure to recognize this source of danger.

Any attempt to even enumerate the numerous devices, including clamps, plates, etc., that have been introduced in the operative or open treatment of fractures would carry us beyond the time allotted to this paper. None of the modifications of or substitutes for the Lane plate, seems to have any advantages over the well made Lane plate with short, well fitting screw. Silver wire, aluminum bronze wire, kangaroo tendon, nails and screws all seem to have a place in this work, and the selection of the appropriate device is to be left, like the decision as to using the method at all, to the judgment of the operator and should be the device best suited to the particular case in hand. In general it may be said that the device which will answer the purpose and can be introduced with the least amount of foreign material in the wound is the best. Since a large percentage of these devices have to be removed because of pain or the development of sinuses, it is well to keep in mind the ease with which any particular means of fixation may be removed when deciding which to put in.

Fixation devices applied at points where they

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are covered only by skin and fascia are very likely to cause painful swellings, fistulae, etc. It is, therefore, well when there is a reasonable supposition that the fixation device is to remain in the tissues to see to it that it is applied at a place where it is covered by a layer of muscle or fat.

The time to be chosen for the employment of the open method is also a matter of importance. If we allow a week or ten days to elapse, using splints or extension in the meantime to secure muscle relaxation, the operation will often be carried out with greater facility. The cofferdamming of the lymphatics and absorption of extravasated blood and other fluids, will also materially lessen the danger of infection. After the lapse of several weeks the development of callus, the rounding and osteoporosity of the ends of the fragments, make the means of fixation less certain.

In the treatment of ununited fractures such devices as the Lane plate, silver wire, magnesium plates or strips, etc., are not very likely to secure the desired result. The transplantation of bone taken from the individual himself seems to offer far more certainty of successful union than any method requiring the introduction of devices made of foreign material. These bone transplantations may be made by introducing them into the medullary canal of the fractured fragment or by placing them in a groove or defect cut into or chiseled from the side of the fractured bone.

In the treatment of recent compound fractures one or two loops of heavy silver wire may be thrown around the ends of the fragments in an oblique direction after apposition has been secured. The wires can be placed in a shallow groove to prevent slipping and the slightly oblique direction should be so directed that any tendency to over-riding will tend in the direction of tightening instead of loosening the loop. This method has the advantage of avoiding the introduction of septic material into the medulla of the fragments and, also, the added advantage of easy removal.

In the treatment of infected fractures, attention should be first directed to clearing up the infection, leaving the operative coaptation until conditions are such that an aseptic replacement can be made.

Among the simple fractures, those of the patella, olecranon, single long bones and double long bones with fracture of both bones and the fractures near joints are the ones in which the surgeon will most often feel impelled to resort to the open treatment. The open method finds a special field of usefulness in the fractures of the patella and olecranon where considerable separation is the rule. Here the open method, one might say, is the method of choice. After putting in splints for a week or ten days, the operation may be carried out safely by circular suture of silver wire through the tendon in the case of patella fractures, and kangaroo tendon in the olecranon, and dressing the extremity in extension in a light plaster cast. After sufficient time has elapsed for a fair degree of union the cast should be removed and massage and passive motion begun and gradually increased until a useful degree of mobility is secured.

In the fracture of the long bones it is often difficult to secure and maintain satisfactory reduction by ordinary methods of treatment. This is also true of fractures near joints on account of the shortness of one of the fragments. In these cases the most favorable conditions are presented for the use of the Lane plate and the results are very satisfactory when this device is properly applied.

In fracture of the neck of the humerous or femur the use of a nail or long screw seems admirably suited to hold the fragment in apposition.

In general it may be said that more attention to the careful application of the older methods of treatment by means of splints, extension and bandages, constantly checking up conditions by the use of the X-ray, will lessen the necessity for the employment of the open method of treatment and secure better functional results by these methods than we have been accustomed to get. In spite of the most accurate diagnosis and careful and painstaking treatment by these methods, there still remains a group of cases in which it is impossible to secure and maintain that degree of apposition of fragments which will insure for our patients a good functional result and a minimum of disability. In these cases the open method finds a wide range of usefulness. Each case must be judged upon its own merits, and that method or device applied which will secure the desired apposition with the least amount of trauma to the tissues and the introduction of the minimum of foreign material. In no other field in surgery will careful and scrupulously aseptic technique be more required than in the open treatment of fractures.

DISCUSSION.

Dr. J. P. Connell, Fond du Lac: The paper is so full and replete with facts that there is very little to say, and all I shall do is to emphasize a few of the most salient points that were brought out as occurring in our practice. As to fractures that are open, there are two kinds, those that are open from traumatism, and those that we deliberately open of our own free will. Since the advent of the X-ray, and our anatomical knowledge has become more perfect, it behooves us to make better diagnosis and know better the position of our fractures. Furthermore, it is quite necessary that we thoroughly interpret the findings of the X-ray.

What would be a proper operative case for one man might, in the judgment of another surgeon, seem to be a non-operative case. In the operative cases that are not open, all possible means should be used to reduce the fracture first. If we find we are unable by the X-ray to determine, we then proceed, in the long bones, to make extension with weight and pulley, or with the Lemon-Miller apparatus, and then begin our surgical procedure.

This is a point that I should like to emphasize: a surgeon who is perfectly capable of doing abdominal work will sometimes fall down in doing bone surgery. I think the reasons for this were pretty well brought out here to-day. The skin should be thoroughly cleaned with iodine, mercuric chlorid, or some other preparation. The skin should be cut with one knife which is then put away. The flesh should be separated very gently, with the least traumatism possible, and the forceps that are used should be the smallest, as we find the more the flesh is traumatized and injured the less apt it is to heal, and you are likely to have trouble with infective processes.

After the bone is exposed, it should be grasped by suitable instruments and put in apposition, and retained there until the suitable apparatus is applied, whatever you are in the habit of using, or whatever is suitable to the case, before removing your traction and before taking off the instruments which are holding your bones in apposition.

In the fractures of the thigh we find that the Lane's plate has given us very good results.

In the fractures of the tibia we use the Lane's plate, but we try to keep away from the anterior wall, or the anterior surface, for the reason that if you put a Lane plate on the shin, or on the anterior wall, you are very apt to get necrosis, followed by infection. It is better to get down on the opposite side, where it is amply covered with muscle, and put on your plate.

In the wounds of the fore arm, I am in the habit of using chromatized catgut, putting in two strands in opposite directions, and in most cases it answers fairly well.

The price of good surgery is to be absolutely clean, to be not violent; your hands should be as gentle as a lady's, and nothing should be traumatized. The small forceps, as I said, should be only used to clamp blood vessels, and only the blood vessels should be clamped.

After you have the work done on the bone, there is no necessity of sewing the muscles or fascia. All you have to do is to sew the skin, and let the wound alone, and you are very apt to have a good result.

Dr. C. J. Combs, Oshkosh: The fact is, the paper presented by Dr. Smith I believe represents the ideas of a majority of the medical profession.

The great danger of infection which has just been mentioned by Dr. Evans, is something we should always remember, and which should make us very chary about making a closed fracture an open one. A little more attention, and traction manipulation, under the guidance of the X-ray, will often reduce fractures which at first are apparently unreducible, and that is the method followed almost exclusively by our Oshkosh surgeons, to first try to get a reduction and a retention without operative procedure. Operatic procedure is one of the last resorts, and not one of election.

FORMALDEHYDE FUMIGATION A FAILURE.*

BY GEORGE C. RUHLAND, M. D.,
COMMISSIONER OF HEALTH,

MILWAUKEE.

Nothing is more fallacious than to assume that our knowledge of today is the immutable truth for all times. As a matter of fact every age has seen some pet belief, some cherished orthodoxy of its day, become the heresy of a later day, to be added to that vast rubbish heap of human endeavor which experience, ever on the search for truth, every now and then casts out as worthless.

When in 1895 the formaldehyde method of fumigation was brought to the attention of health officers, it immediately sprang into general favor. Its admitted potency as a germicide, its non-toxicity for the higher forms of animal life, its reputed penetrating powers, the fact that it does not injure metal, fabrics, colors and paintings, its relative cheapness, all combined to establish it. The manufacturer saw commercial possibilities and the advertiser's art succeeded in making it the poplar disinfectant of today. Everybody seemed satisfied and content that in the use of formaldehyde we had a means which satisfied every requirement in combating infectious diseases by fumigation.

It is a matter of genuine regret that a closer investigation of the problem robs the method of many of its attractive features. During many years of laboratory work the writer has had oppor-

*Read before the Medical Society of Milwaukee County, April 9, 1915.

tunity to examine many samples and methods which use formaldehyde as a disinfecting agent. In not one of these have laboratory tests been able to establish anything but a rather variable surface disinfecting power. It is indeed quite generally recognized by those who have taken the trouble to investigate, that the penetrating power of this disinfectant is next to nil. Fabrics, particularly woolens, offer a very effectual barrier to this penetrating quality of the gas which polymerizes on the fibers of the material.

There are several other factors which combine to make formaldehyde disinfection a method of doubtful value. Formaldehyde is a gas of practically the same specific gravity as the atmosphere. As a consequence, the diffusion of the gas is extremely poor. This means, of course, that a room treated by this form of disinfection is very unequally exposed to the influence of the disinfectant. It is also quite generally recognized that for its efficiency the gas should be under a certain degree of pressure. The atmosphere in which it is liberated should contain at least 75% of moisture and should have a temperature of not less than 70° F. and preferably higher. All the crevices of the windows and doors of the room should be securely sealed. As a practical proposition it may be safely stated that all these conditions are practically never complied with, nor can they ordinarily be satisfactorily established.

There are also certain other practical factors which must be borne in mind when we deal with the problem of disinfection. These concern themselves eminently with the manner and method in which infection is carried. It is understood, of course, that the infectious element is the respective bacterium. Now it is fortunately true that most of the pathogenic organisms, being strictly parasitic, die very quickly when they are not upon proper culture ground and in a suitable environment. This means that when they leave the patient, the condition suitable for their existence is generally removed, and desiccation, sunlight and other influences soon destroy them.

Taking for example the commoner forms of micro-organisms with which we have to deal in this problem, we find that unless well protected by mucus their existence outside of the animal host is exceedingly short. Thus the bacilli of tuberculosis, influenza, diphtheria and typhoid fever are destroyed by sunlight and desiccation within a few minutes to a few days at most. Pneumococci, streptococci, meningcocci and other members of the coccus type are similarly short-lived. Where sunlight and desiccation are unable to destroy the organisms fumigation can add nothing of value. I have been so firmly convinced of the correctness of this position that I have for years recommended the discontinuation of the practice of disinfection by formaldehyde fumigation by the Health Department. More recently I have finally succeeded in putting my conviction in this matter to a practical test. Since October, 1914, during the winter months when contagious diseases usually are most frequent the Health Department has operated without fumigation or by using so little of the fumigant that it could not possibly be of any value. During this period the Health Department cared for 574 cases of diphtheria and 217 cases of scarlatina. Yet under practically similar conditions as before the recurrences did not exceed 1.01% for either disease. A comparison of these records with those of the department up to this time, as well as of those of other cities where fumigation is religiously practiced finds the percentage of reinfection no greater nor even quite as great in some instances.

This also has been the experience wherever fumigation has been dropped. Dr. Chapin, of Providence, the first, perhaps, in this country to break with tradition in the matter of fumigation, reports that in the many years that he has done without fumigation the percentage of recurrences has been no greater than before nor greater than in cities where the practice is still most carefully followed. More recently, New York City has discontinued fumigation, at least for some of the contagious diseases.

After all, the whole problem of preventing the spread of contagious disease is eminently a matter of proper isolation of the patient or the carriers and the sterilization of their discharges. If the bed and body linens with which the patient comes in contact are sterilized by boiling, if the discharges from nose, throat, eyes, ears and suppurating glands, or bowel and bladder are carefully disinfected, utensils and dishes used by the patient thoroughly scalded and the attendant herself keeps clean, much more will be accomplished than we have done so far in the matter of checking and preventing contagious disease. Formaldehyde fumigation as it is and has been practiced is a ceremony not a service; it is a text book tradition, an adver-

tiser's fairy tale, a useless expenditure of money and worse, a menace, inasmuch as it creates a false sense of security which causes families to neglect to do what really is of value. Let us have the courage of our convictions and do away with it.

TWO CASES OF EXOPHTHALMIC GOITER WITH OCULAR MUSCLE COMPLICATIONS.*

BY LEE M. WILLARD, M. D.,

WAUSAU.

Exophthalmic Goiter, or Basedow's Disease, comes rather more appropriately within the domain of general medicine and surgery because the ocular symptoms are but a local manifestation of a more serious disease. However, in presenting this paper, my object will be to introduce a subject for discussion which has in the past received only slight consideration by ophthalmologists.

In searching the text books of the best authority on ophthalmology, I find that but little or no mention is made of motor oculi paralysis as a symptom of goiter, and I have been able to find only a very few cases reported in the journals.

Case I. Mr. M. C., age 50; business, saloon keeper for nearly thirty years; has used tobacco and liquor very little, and, in fact, has been a man with very temperate habits considering his occupation.

Mr. C. consulted me first in 1896 regarding his eyes. Upon examination I found that he had convergent strabismus, the right eye converging slightly. The left eye has a very marked convergence with a vertical squint upwards (sursumvergans). The vision of the right eye was 20-25 which was improved to normal with a —0.50 axis 30. The left vision was 3-200 and was improved to 20-60 with a —19.00. The converging strabismus with myopia is usually considered contrary to the rule. A mydriatic was used for several days but no change could be made in the lenses and as patient could not tolerate any glass correcting his refraction, the glasses were discarded.

Mr. C. consulted me again September 24, 1913, and gave the following history: In March, 1912, while at West Baden, he was suddenly taken with nausea and vomiting. After recovery, and upon his return home he consulted physicians who found a rapid pulse, with palpitation of the heart and a calculus was located in the right kidney. A few weeks later he consulted the Mayos at Rochester. They confirmed the diagnosis of calculus in the right kidney and removed the organ completely on June 7, 1912. The patient regained his health and normal weight, which was 170 pounds, within a few months after the operation. In January, 1913, he began to lose weight again, complained of palpitation of the heart and loss of appetite, became nervous and irritable and noticed that his eyes were prominent and inflamed.

On examination, I found a very marked exophthalmos. The left eye, more than the right, had some difficulty in closing the lids. The original strabismus was present with the addition of a marked vertical displacement of both eyes, the right eye down (deorsumvergans), the left up (sursumvergans). The right superior rectus was paralyzed and also the left inferior rectus. The right external rectus appeared to be paretic. The degree of deviation could not be measured. Owing to the high degree of myopia of the left eye, the patient did not complain of diplopia except when he attempted to use correcting lenses. The vertical excursion of the right eye was limited to the horizontal plane and the left nearly stationary upwards. The thyroid gland did not appear to be enlarged; in fact, was quite small.

Mr. C. again consulted Dr. Mayo in December, 1913, and the diagnosis of exophthalmic goiter was confirmed and the goiter operated upon.

Since the operation the patient has steadily improved and has regained his normal weight. The exophthalmos has disappeared and motion in the affected recti muscles has improved to a marked degree.

October 5th. Mr. C. has fully regained his general health; all heart symptoms have subsided; pulse 68 while moving about. The exophthalmos has completely subsided and the paralyzed recti muscles have improved so that the excursion of the right eye upwards is about 20° above the horizontal plane and the excursion of the left eye downwards is about the same.

Case II. Mrs. S., age 40; married; has one

*Read at the First Annual Meeting of the Wisconsin Eye, Ear, Nose and Throat Specialists, Oshkosh, Oct. 8, 1914.

child eighteen years old; has always enjoyed good health until present trouble.

Patient consulted me January 21, 1914, and complained of double vision, exophthalmos and goiter. On examination of the eyes I found the following condition:

Quite marked exophthalmos, more pronounced in the right eye than in the left. There was a very noticeable deviation of the right eye downwards (deorsumvergans). The excursions of the right eye upwards were limited to the horizontal plane, and while looking to the right, the movement was slow and jerky (nystagmus). On attempting to converge on near objects, the eyes would not pass much beyond the median line (Moebius Symptom). On looking to the extreme right and left, both internal recti and left external rectus muscles were strong. Diplopia was present except when looking to the left and downwards. There was paralysis of the right superior rectus and paresis of the right external rectus. The vision of the right eye was 20-30 and of the left eye 20-25. No attempt was made to measure the deviation as both horizontal and vertical were too great when attempting to look directly forward. The pupillary reaction to light and accommodation was normal; also the structures of the fundi. The thyroid gland was quite large, the right lobe being much larger than the left, and pulsation was very noticeable. The pulse was 118 when sitting quiet and increased to 130 or 140 when moving about or under any slight excitement.

Patient called again March 6, about six weeks elapsing between the first and second visits. All conditions mentioned above were much more pronounced than they were at the first visit. The vision of the right eye had fallen to 20-60 and the vision of the left eye to 20-35. The pupils of both eyes reacted very promptly and accommodation was normal. Convergence was difficult (Moebius Symptom) and also Von Grafe's and Stellwag's symptoms were present. Both papillae were anemic, the retinal arteries being smaller and the veins larger than the normal.

The case was referred to Dr. J. F. Smith and on March 14 the right lobe of the thyroid gland was removed. The patient improved for a few weeks both in general health and eye condition.

In May the left lobe of the thyroid gland began to increase in size and pulsation was present and quite noticeable; the nervous condition increased, pulse was rapid (130) and the eye symptoms became more pronounced; the skin of the face flushed and patient experienced some dizziness and difficulty in walking (incoördination of leg muscles) as occasionally she would fall and could not rise without assistance. A great decline in her general physical condition continued until the second operation, which was performed on August 5, 1914, when the vessels of the left lobe were ligated by Dr. Smith. Within a few days after the second operation all of the general symptoms began to subside.

September 8, 1914, patient reported again. Her general condition was much improved and she had gained twelve pounds in weight. The muscular incoördination of the lower extremities had nearly subsided, the pulse was 104 standing, exophthalmos was not so prominent, the diplopia was disappearing, the excursion of the right eye upwards extended some above the horizontal line, and the convergence was better.

October 5, Mrs. S. This patient has improved very much in general health; has gained seven pounds within the last four weeks and now weighs about her normal. Her pulse immediately after climbing a long flight of stairs was 94. She still complains of some nervousness which is rapidly disappearing. The exophthalmos of the left eye has about subsided. The right eye is still slightly prominent. All of the ocular muscles, except the superior rectus, have regained their function. The excursion of the right eye upwards extends to about 25° above the horizontal plane.

It is my opinion, considering the great progress these patients have made since their operations, that if they had been operated on some weeks earlier before atrophic conditions had taken place in the muscles and the nerve fibers they would have had complete recoveries.

In a review article on *Exophthalmic Goiter* published in *Progressive Medicine* June 1, 1905, I found reports on two cases by von Voss and some opinions, which I am taking the liberty to quote on account of the similarity between those two cases and mine.

The first case occurred in a girl twenty-two years old. The thyroid was enlarged, particularly on the right side. The pulse when recumbent was 120, which increased to 160 on rising; tension was increased. There was a marked exophthalmos, especially on the right side. The right superior

rectus was paralyzed and the right abducens paretic; the left inferior rectus was paralyzed and the left abducens paretic. On the right there was a slight facial palsy. The pupils were normal. During the next two months the palsies varied greatly, the motion at times being almost normal.

The second case occurred in an unmarried woman aged thirty-four years. The patient was of medium size, poorly nourished, and anemic. There was slight exophthalmos, more evident on the right side. There was insufficiency of convergence; Stellwag's and Grafe's signs absent. There was a small, rather hard goiter, with no bruit. On excitement there was a fleeting redness of the face and roseola psychica on the chest. The heart was enlarged to the left; pulse 124. The hands showed a fine tremor. The strength of the arm muscles was not very great. The station was equally good with the eyes open or closed. The gait was slow and, in consequence of the tremor of the left leg, uncertain. When recumbent the movements of the legs were not ataxic, but the left leg trembled greatly. Weakness was demonstrable in the flexors of the thigh and leg and in the extensors of the feet (tibialis anticus, peronei), especially on the left side. Both the adductors and abductors of the left leg were weakened. The tendon reflexes were markedly increased and angle clonus was present on both sides. Treatment was ineffectual and she was discharged unimproved. On a second admission the general condition was seen to be somewhat better but she now showed palsy of the eye muscles. The palsies were multiple and occurred on both sides, being most marked in the right superior rectus. Other etiological factors than the Basedow's disease could be definitely excluded.

Moebius in his monograph in the Nothnagel series has commented on the infrequency of palsy of the eye muscle in exophthalmic goiter, and in the later literature von Voss has been able to find only three cases similar to these just reported. The origin of such palsies is not clear. In Bristowe's case the autopsy was negative. Von Voss is of the opinion that the view of Moebius that the palsy is of nuclear origin is correct. Whether the change is vascular or the elective action of a poison remains undecided. The variation of the palsies in these cases is striking. The peculiar disturbance of motility in the second case the author thinks resembles the choreic tremor described by Kahler, only in this instance the extremities were affected instead of the head. There was no occasion to suspect sclerosis or hysteria.

A case of palsy of the extraocular muscles is reported by Posey, who finds from a search of the literature that the condition is more common than is usually believed. He mentions the grouping of Buschan into

(1) cases complaining of diplopia, the muscles at fault not being ascertained;

(2) palsy of the rectus internus;

(3) palsy of the rectus externus;

(4) palsy of the rectus superior;

(5) palsy of the trochlearis;

(6) palsy of the levator palpebrae of both eyes.

In Posey's case there was palsy of the left sixth nerve, of the portion of the left third nerve supplying the inferior oblique and the superior and inferior recti muscles. There is a tendency to refer these palsies to an involvement of the central nuclei, which would be a point in favor of the idea that exophthalmic goiter is of central origin. The exact site, however, of the palsies has not as yet been determined. Since the palsies are sometimes transient, and in case autopsied no pathological changes have been noted, Posey thinks it probable that the morbid process is only functional, consisting of an irritation of the centers by toxins generated by some perversion of the action of the thyroid.

A MODIFIED MUSCULAR ADVANCEMENT OPERATION APPLICABLE IN ALL CASES AND EASY OF EXECUTION.*

BY JAMES A. BACH, M. D.,

MILWAUKEE.

While in effect the operation referred to is a muscular advancement, in point of performance it is simply a modification of the De Wecker Advancement Capsulaire.

It is a fact that a great many operations for muscular advancement have been devised and rec-

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ommended, which is probably the best proof that not any one of them has given universal satisfaction, nor has any one been generally accepted as ideal. Without reviewing any of these operations recommended I will state that a number of them have answered the purpose very well, but they are mostly much more painful and time consuming and withal no more satisfactory, at best, than the operation I wish to suggest. One of the most serious objections to most of these operations is that they require a resection of the muscle or tendon advanced. In this objection I am supported by many observers. My aim however is not to condemn any particular operation, but rather to show a simple, effective and painless operation that can be performed in a few minutes and is applicable in all possible conditions, even in those cases where the muscle or tendon has been destroyed by a previous operation or in cases where the muscle is so much undeveloped congenitally as to make it ineffective, as one may sometimes see in certain forms of strabismus.

Convergence of the eye is controlled not alone by the inner rectus, but by the superior and inferior rectus as well. So also is divergence not solely dependent on the external rectus, but on the superior and inferior oblique muscles as well. In this joint action the capsule of Tenon plays a more important part than we generally admit. If we can successfully advance the capsule, without disturbing its close relationship with its two coöperating muscles, a new point of vantage is given the muscles, with the effect that the eye is turned as though the rectus of either side alone were advanced, but with the advantage that no muscle has been severed and a much better relationship has been maintained for coördinate action, besides giving us a broader field of attachment to the eyeball for the action of the muscles involved.

This principle has been generally recognized, but it was found that much of the advancement was lost later after De Wecker's procedure, largely because the stitches had too much of a strain, and did not hold properly either cutting or allowing an early slip, due to tension. The point I wish especially to emphasize, is that we must disable the opposing force by overstretching, before the stitches are tied, then it will be found that this tendency to slipping will not be noted nor will the stitch cut through.

I have operated in a large number of cases and found that the loss is rarely more than 10%, and have learned to overcorrect. This amount of loss is also quite generally found in other operations, I believe. The amount of correction possible is practically unlimited and I have in at least one case corrected over 75° at one time on one eye. The operation can have no bad consequences, barring infection, which latter would be infinitely less serious than in the other forms of operation.

Over the attachment of the tendon or muscle to be advanced a semi-lunar portion of the conjunctiva is removed, extending from the inner margin of the cornea straight up and down, fully the width of the cornea itself, and outwards extending well over the attachment of the tendon to the eyeball. After this is removed, an opening is made on either side of the attachment of the tendon, through the Capsule of Tenon. The width of this opening depends upon how much of an advancement is to be made; the opening being larger for the higher corrections.

The next step is the introduction of the sutures. A curved needle of medium size, threaded with pretty heavy black silk, is then entered either below or above the cornea in about its center, the needle penetrating the conjunctiva and the subconjunctival tissues only, and the sclera is not entered. The needle is passed outwards, under the tissues until it emerges at the denuded space originally made. This is done both above and below. Now the needle is re-entered through the opening made in the Capsule of Tenon, passing it back along the edge of the tendon as far as needs be, then passing through the capsule at the very margin of the tendon, then catching up the loosened conjunctiva, and the suture is placed, to be very loosely tied with a surgical knot, but the knot is not completed until a tenotomy is made on the opposite side. After the usual tenotomy is made, the eye is forcibly turned towards the advanced capsule, in order to disable the opposing muscle and relieve all strain on the knot to be tied. At this stage the surgical knot previously begun is gradually drawn taut, with a lifting motion, so as to avoid the direct pull. It will be seen that the capsule will directly advance and as the knot is more firmly tied, the advancement can be made as may be necessary. At this time the eye can be tested as to its position, and if more correction is necessary the knot may be further drawn and if there be an over correction it can be released and then

firmly secured by additional knots. The opening made for the tenotomy of the opposite side can be closed, or if very small, may be allowed to remain.

THE NINETY DAY CLAUSE IN THE WORKMEN'S COMPENSATION ACT.

BY W. F. ZIERATH, M. D.,

SHEBOYGAN.

There can be no denying the fact that the statute establishing a Workmen's Compensation and Industrial Commission, is one of the most beneficent laws ever placed on the statute books of the State of Wisconsin. It has operated to protect the interests of the employer, employee, and the physicians. It has relieved both the employer and the employee from expensive litigation and the physicians from the rapacity of the all too numerous casualty companies. The position of the physician under the Act is infinitely better than it was under the old order of things. But there still exist certain imperfections whose elimination will greatly strengthen the law and promote equity and justice to all parties most interested in the practical working of the law.

One feature of the law that is vitally interesting to physicians is the practical operation of the so-called "Ninety day" clause. Indirectly it particularly concerns the employer and employee. This portion of the Act reads as follows: "Section 2394-9. Where liability for compensation under sections 2394-3 to 2394-31, inclusive, exists, the same shall be provided in the following schedule: (1) Such medical, surgical and hospital treatment, medicines, medical and surgical supplies, crutches, and apparatus, as may reasonably be required at the time of the injury and thereafter during the disability, *but not exceeding ninety days,* to cure and relieve from the effects of the injury, the same to be provided by the employer; and in the case of his neglect to seasonably do so, the employer to be liable for the reasonable expense incurred by or on behalf of the employee providing the same."

The Chairman of the Industrial Commission, Mr. Crownhart, informs me that the Wisconsin Compensation Act furnishes the longest period of medical attendance of any compensation act on the statute books of any state excepting California.

After carefully weighing all the arguments for and against the retention in the Act of the ninety day clause, I am thoroughly convinced that the Act would be very greatly strengthened and operate more equitably to all parties concerned, by entirely eliminating the phrase, "but not exceeding ninety days", and adding to the Act a new clause, which I will take up and discuss further on in this article. To be an undisputed success, every feature of the Act which is objectionable, without any compensating advantage, should be stricken out of it, and this arbitrary limitation of the length of medical service is, from the viewpoint of a physician, excessively objectionable and absolutely without any compensating advantages.

I have never been able to find out just why the ninety day clause was written into the Act. It has been suggested that its purpose was to prevent fraud and imposition on the part of either the injured employee or the physician, or collusion on the part of both of them to defraud the employer or the insurance companies. If that is the case, and basing my opinion entirely on the testimony of employers and officials of the insurance companies, the clause has been a signal failure so far as it was intended to prevent fraud, imposition and collusion, and has really materially facilitated its perpetration, rather than prevented it. As it now stands it is a reflection on the integrity of the medical profession of this state and a challenge to the unscrupulous minority to take advantage of the situation created by the Act and extort unearned fees from the insurance companies, as the companies extorted unpaid for services from the medical profession in the past.

To my way of thinking there is not a single redeeming feature in the ninety day clause and so long as it remains in the Act, it will be a provoker of discord and a disturber of that harmony of action and co-operation which must exist between the physician, the injured employee, the employer and the insurance companies, if the indiscriminating justice of the law is to be conserved and perpetuated.

In discussing the objectionable features of the ninety day limitation of payment for medical services I shall try to demonstrate that it is contrary to the best interests of the physician, the employee, the employer, the insurance companies and the Industrial Commission and then suggest a possible solution of the various problems that present them-

selves in the administration of the medical phases of the Act.

It is assumed that in taking charge of a casualty case, the attending surgeon is going to bring to bear on that particular case, all the surgical skill and diagnostic resourcefulness of which he is capable; and if he is not capable, to call in someone who can treat the case as the circumstances warrant. Radiographs, hospital services and efficient nursing are to be utilized as freely as necessary. The sole object of the surgeon should be the speedy restoration of the injured individual to as near normal as it is possible, to conserve for him as high a degree of economic efficiency as the extent of his injuries permit, and all this without any misgivings as to the payment of his fees and the weekly or final compensation of the injured employee.

In doing thus he is acting in full accord with the spirit of the Act and by minimizing the ultimate result of the injury on the earning capacity of the injured employee, he is furthering, in the highest degree, the best interests of all parties concerned in the operation of the law. Nearly every one will concede this, but here unfortunately is where the ninety day clause operates to the disadvantage of all interested in the equitable enforcement of the Act.

Undoubtedly a very large majority of the injuries sustained by employees can be finally disposed of before the ninety day limit has expired and only a moderate percentage of those injured require longer professional attendance. After the first ninety days, it is presumed that the injured employee must pay for all the medical services and supplies that may be required and he must do this without any increase in his weekly compensation of 65% of his wages, except where he is so totally disabled or helpless as to require the assistance of a nurse, when the weekly indemnity is increased to 100% of his average weekly earnings during such period of total disability.

The patient utterly fails to see the logic of this clause. He cannot comprehend why he should be compelled to pay for his treatment after the first ninety days have elapsed and have had all his medical bills paid during that first ninety day period. He has had to curtail his ordinary expenses to the absolute minimum, and even then usually has to draw liberally on his savings (if he has any), or depend on friends and relatives to help him support himself and family. That his injury was so severe as to incapacitate him for so long a period was not a matter of choice with him. It was simply his misfortune and he would gladly have had it otherwise.

Employers and insurance companies can, and *do,* refuse to continue to make further payments for medical treatment and supplies after the first ninety day period has elapsed. This places the attending surgeon in an unfortunate predicament. If he is true to the ideals of his profession, the Act automatically compels him to assume a burden that the employer should rightfully bear.

If the patient can and is willing to pay for his medical services and supplies, his treatment can be continued as long as necessary without placing any burden on the physician. But if he is unable or unwilling to pay, the problem assumes an entirely different aspect. Section 2394-23 says, "No claim for compensation under sections 2394-3 to 2394-31, inclusive, shall be assignable before payment, but this provision shall not affect the survival thereof; nor shall any claim for compensation, or compensation awarded, adjudged or paid, be subject to be taken for the debts of the party entitled thereto."

Thus it is perfectly apparent that the payment of the physician's services, after the expiration of the ninety day period, depends entirely upon the willingness of the patient to pay. He cannot assign the whole or any part of any prospective settlement he may obtain from his employer, nor can the surgeon obtain a judgment against the compensation awarded by any process of law. In short, payment of the physician's services depends entirely on the good will of the patient, his employer or the insurance company and none of them can be forced to pay the attending surgeon. Of course, the surgeon can make an agreement with the employer or the insurance company, but in the event of their refusal to obligate themselves he must look to the patient for the payment of his fees.

If the patient is unwilling or unable, and the employer or the insurance company refuses to pay for medical services or supplies, after the expiration of the ninety day period, the physician can choose one of two alternatives. He can refuse to continue to give the patient further services, or he can continue to treat him and hope that something will transpire to cause either the patient, the employer or the insurance company to change their

minds and remunerate him for his services, in full or in part, at a later date.

To refuse to continue to treat a patient who is unable to pay would be a heartless and inhuman thing to do and no true physician would be guilty of such a procedure. If he did elect to pursue such a course, he would subject himself to the censure and the contempt of the patient's friends and relatives and the community at large. It might react on his practice and his standing in the community very materially. To refuse to treat the patient who is unwilling to pay would result in consequences possibly still more serious. Nothing that the surgeon could say in extenuation of his course of action, would be acceptable to the laymen.

In the event of the surgeon's refusal to continue to treat the patient, the psychological effect on the patient would be immediate and far reaching in its consequences. If the patient did not arrive at the conclusion himself, some friend or some one antagonistic to the surgeon, would be very prompt in suggesting that the patient's long continued disability was due, not so much to the original injury as to improper treatment, and the fact that the surgeon refused to continue on the case was proof positive of the fact and was the real reason why the surgeon retired from the case. Unscrupulous attorneys would not be slow to confirm the soundness of such reasoning and suggest the institution of a mal-practice suit.

The patient might be thoroughly discouraged by his long continued disability and, when informed that he would be required to stand the expense of further treatment, he might decide to go entirely without treatment and allow his case to drift along. He might elect to treat himself according to his own conception of what ought to be done for him. He might follow the advice of well intentioned but ignorant friends in the use of patent medicines, braces and appliances of various kinds, plasters, blisters, liniments or what not, in the treatment of his condition. He might obtain the services of an incompetent physician, or some physician, who, though well intentioned but unfamiliar with the previous history of the case, might suggest and carry out a course of treatment utterly unsuited to the case and which might ultimately do more harm than good.

It is perfectly obvious that if any of the hypothetical events happen, irreparable harm to the patient's physical condition might result and, in the long run, the final compensation awarded him be thereby vastly increased, to say nothing of the greater length of time that the weekly compensation would be drawn.

The case might fall into the hands of a professional enemy, who might take advantage of the mental attitude of the patient and the patient's friends to make unfavorable criticisms on the way the case has been treated by his predecessor and thus stimulate dissatisfaction and, possibly, the institution of a mal-practice suit. In either event, the harm done a surgeon's prestige and reputation could never be compensated by any fees he had previously received from the case.

Public opinion and the best material interests of the surgeon demand that he continue to treat an injured employee after the ninety day period has elapsed, even though he is perfectly aware that he will not be remunerated for his services. Thus the objectionable clause virtually forces the surgeon to assume a burden that properly belongs to the employer.

EFFECT ON THE EMPLOYEE.

Assuming, for the sake of argument, that the employee who is incapacitated for a period longer than ninety days, is both willing and able to pay for all medical services and supplies as long as his condition demands them, the rank injustice of compelling him to assume that burden hardly needs any comment. It is directly contrary to the spirit of the Act. As I interpret it, the intention of the law was to charge the hazards of the employment to each particular industry and to the products of that industry. Ultimately the consumer was to pay the cost by paying a higher price for the article produced. Why, then, make the unfortunate employee pay part of that charge? That is exactly what the ninety day clause compels him to do. When the employee does not pay it, then the medical profession is automatically forced to assume that charge.

In these days, when the cost of living is so high, every day of enforced idleness, even though the workman does draw 65% of his weekly wages, is a hardship demanding more or less sacrifice on the part of the laborer and those dependent on him. The briefer his incapacity the less unwelcome it is. When it is over ninety days, in most cases, it becomes a near-calamity. Then add to that the cost

of medical services and supplies and it becomes a real calamity. It is indeed fortunate for the laboring classes, that the medical profession is pervaded with a spirit of altruism and does all it can to make this burden as light as possible. Otherwise the protest of the employees against the ninety day clause would be more emphatic than it is.

In the days previous to the enactment of the Compensation Act, when the possibility of obtaining a generous verdict for an accidental injury existed, some injuries may have been regarded as a fortunate occurrence. Today, however, that is not the case and every injury is regarded as a misfortune. It means pain and suffering, loss of wages and possibly permanent curtailment of earning capacity. Employees realize that any compensation they may receive is only partial valuation of their actual loss. He who is incapacitated longer than ninety days has a larger loss proportionately than he who is incapacitated for a shorter period. The situation ought to be exactly the reverse. The elimination of the ninety day clause would be one step forward in correcting this condition of affairs.

The employee who cannot or will not pay for medical services and supplies after the expiration of the ninety day period, does not receive the care that he is entitled to. He is going to be slighted in the matter of supplies or services or both. However well intentioned the surgeon may be, the fact that he is doing and giving to the patient merely out of the goodness of his heart or as a matter of self protection, something for which he ought to be paid, will, intentionally or unintentionally, result in some lapse of surgical efficiency.

The employee who is depending upon the charity of the surgeon is not a contented patient, willing at all times to co-operate with his physician. He is suspicious of the doctor's sincerity and interest in his particular case. The very fact that the surgeon continues to treat him, knowing that the patient will not pay him, arouses his distrust. Evidently the surgeon and the employer are working together to the disadvantage of the employee. The mental processes by which the employee arrives at such conclusions are not exceedingly intricate. The result, though, means lack of co-operation and that spells lack of perfection in results.

Paying or not paying for his medical services and supplies after the ninety day period, a certain independence of spirit and action is almost always evidenced then, which had previously been absent. Suggestions as to treatment and changes in treatment come with irritating frequency. The patient lends a willing ear to adverse criticism. He can and does discharge the attending surgeon. The almost invariable consequence is more or less detrimental to the patient.

When a casualty case has been placed in the hands of a competent surgeon it should remain there as long as the surgeon does his duty. The propensity of patients to "change doctors", when the case does not progress as favorably as the patient or his friends think it ought to, is almost always detrimental to the welfare of the patient. It stands to reason that the surgeon who has watched, studied and treated a case from its beginning, who is thoroughly familiar with the operative technique applied and the result which it is intended to accomplish, is in a far better position to obtain the best results for the patient than is the man who is called into the case later, and who must base his diagnosis and treatment very largely on the prejudiced and often times absolutely false statements of a disgruntled patient.

Everything possible should be done to discourage these migratory tendencies. The ninety day clause does encourage this, inasmuch as, at the end of that period, the patient feels that as he must foot the bills thereafter, he can discharge the company's surgeon and obtain the services of one who will cater to the patient's knowledge, or rather lack of knowledge, as to what constitutes proper treatment.

Every injured employee ought to receive surgical and medical services and supplies as long as his disability demands them, without cost to him, but no employee should be treated *a single day longer* than is necessary. This is merely giving the employer and employee a square deal and neither can demand more than that from the other. The elimination of the five words, *but not exceeding ninety days,* from the Act would accomplish this.

EFFECT ON THE EMPLOYER.

The employer is just as vitally concerned in the equitable operation of the Compensation Act as is his employee, possibly even more so, because the direct financial burden falls on his shoulders. But there are secondary considerations equally important. First and foremost is the attitude that the

workmen assume toward their employer and his shop. If the laborers feel that their employer is keenly interested in their physical welfare; that he is anxious to comply with the laws regarding protective appliances and regulations; that he is concerned with their sanitary surroundings; that his sympathy for them during disability from accident is genuine and that he is anxious to have them return to work as quickly as is consistent with good medical services; that he regards the minimizing of their economic efficiency as a matter of personal concern to him, that employer will have contented and loyal employees.

The employer who approves of reasonable legislative enactments designed to protect the health, life and limbs of his employees; who views these laws from the humane point of view and makes an honest effort to comply with them; who accepts the financial burden devolving on him as a consequence of these laws and is not trying to devise methods and means of circumventing them—that employer can justly expect and will get the sincere co-operation of his workmen.

Every employer of labor is fully aware of the criticism, discontent and open hostility that one aggressive employee with a grievance can create among his fellow workmen. Discontent and fancied or real grievances are the breeders of strikes and walkouts, and strikes and walkouts mean loss of wages to the employees and loss of dividends to the employer.

The Compensation Act has been in operation now just long enough to enable the employees to begin to appreciate its merits and defects. This ninety day clause is one of its most glaring defects. The laborers are just beginning to comprehend its unreasonableness and its utter lack of logic. It has proven to be a creator of dissatisfaction all around and as cases to which it applies increase in number, just in the same ratio will it breed distrust of the law and criticism of its administration.

The insurance companies merely act as a clearing house for the employers; ultimately the employers pay all the bills. It seems to me that it is far more economical for the employer to pay for medical services during the entire time that an employee may need them, and be certain that the employee did receive proper services, than to allow him to drift along after ninety days and ultimately have a large final award to pay. In the one case there is certainty and the assurance of the moral support of his employees, in the other there is financial uncertainty and the possibility of unlimited friction and ill-feeling in the future.

The Act says that medical services and supplies, etc., are "to be provided by the employer". The employer is a far better judge of the capabilities of the surgeon than is the employee, who judges his physician more by his personality than by his professional abilities. The employer can judge the surgeon by the experience he has had with him in numerous previous casualty cases. The workman judges the physician by his experiences with him in family practice or upon the opinions of fellow workmen. On the one hand there is well balanced judgment, on the other a hit or miss possibility that makes the final outcome doubtful from the beginning.

After ninety days the employee is free to do as he chooses, and the chances are that he will exercise his perogatives, and most likely to his own detriment. It is highly important for the employer to keep his finger on the situation from the beginning to the end of a casualty case. The elimination of the objectionable ninety day clause will enable him to do this more perfectly than in the past. Then he will be able to forecast possibilities almost to a certainty; now it is more or less of a gamble with the odds against the employer.

EFFECT ON THE INSURANCE COMPANIES.

The honest, efficient and conscientious physician is the best friend of the injured employee and the strongest ally of the employer and the insurance companies. This ought to be an axiom in Industrial insurance legislation. Unfortunately for themselves, many insurance companies refuse to believe that the medical profession is strictly honest and efficient. Much of their reasoning is based entirely on false premises. Many of them fail to realize the various difficulties that the physicians have to contend with in their dual function of physician, dealing with the physical phases of the law, and of social workers, dealing with the economic phases of the Compensation Act.

A prominent insurance man said to me recently, "The Compensation Act has rid the insurance companies of the shyster lawyers, but has given us something a great deal worse—the shyster doctor." He then went on to enumerate a long series of cases in which the company which he represented, had paid out large sums for operations needlessly performed, for after treatment unduly prolonged

and even went so far as to cite several cases, in which he charged the attending surgeon with wilfully infecting wounds, in order to extend the time of the after treatment. He said that collusion on the part of the patient and the surgeon, to prolong the convalescence as long as possible, so that the surgeon could increase the size of his bill and the patient draw a longer weekly indemnity, was a common practice. Also, that the seriousness of the employee's disability was frequently exaggerated in order to increase the amount of the final award.

A high official of one of the largest companies doing business in the state told me that the number of cases that were able to report for duty immediately after the expiration of the ninety day limit was extraordinarily high. His own conclusion concerning this fact is highly significant of the attitude of the insurance companies toward the ninety day clause. He attributed the preponderance of recoveries after ninety days had expired, to the fact that physicians purposely kept the cases in their charge as long as they were certain that their fees would be paid, notwithstanding the fact that the patient could have been discharged sooner or that the patient needed longer treatment.

If his presumption is correct, or only approximately so, it is to the interest of the insurance companies to have the ninety day clause eliminated entirely from the Act, and their interests safeguarded in some other way; or to have the limit made thirty days instead of ninety.

In gathering material for this article, I had some correspondence with the secretary of another large company. In this correspondence I briefly sketched my views of the ninety day clause and suggested that, though the companies might occasionally be imposed upon by unscrupulous surgeons that it was the exception and not the rule.

In his reply he says, "I want to say though that I do not quite agree with your views, and I feel very confident that if you could be placed in my position for two or three weeks that you would change your opinion of some of the physicians and surgeons practicing in this State—there was a time when I believed that any one engaged in the practice of medicine and surgery must necessarily be honorable and upright, but I have certainly changed my opinion. I am afraid I am not in a very good mood, Doctor, to write you on this subject—I just had two cases brought to my attention where two so-called 'prominent surgeons' of this State reported a fracture of the tibia and the humerus and had sent in their bill for first aid covering 'reduction of fracture' and estimated that the injured employees would be disabled respectively four and two months—we insisted that we be furnished with X-rays and, strange as it may seem, no fractures were discovered. One doctor had gone so far as to state that *after several attempts he succeeded in reducing the fracture and that, in his opinion, there would be no displacement.*"

Another grievance that the insurance companies complain about bitterly is regarding the matter of fees for medical services. They claim that they are frequently imposed upon in this regard, and can cite facts and figures to prove their contention that they are charged two to three times as much for services to injured employees, as the surgeon charges private individuals. They also claim that surgeons doing work for the railroad companies, frequently charge them fees which are double or triple those charged the railroad company for identically the same services.

After making due allowances for the charges of collusion, wilful infection, exaggeration of injuries, false diagnoses, padded fees, et cetera, one is nevertheless forced to the conclusion that the insurance companies have, in many instances, just grounds for complaint against individual physicians.

To the employers and the insurance companies who have their misgivings as to the honesty of the medical profession, I would say that the acts of the small unscrupulous minority should not be the criterion by which the whole profession should be judged. The medical profession of this state, regarded as a whole, is thoroughly honest and is just as anxious to see the Compensation Act equitably administered as are the insurance companies and the employers. The medical profession will cooperate heartily, with all those interested, in the impartial enforcement of the Act and the elimination of those features of the Act which make fraud and collusion possible.

EFFECT ON THE INDUSTRIAL COMMISSION.

It is readily conceivable that in administering the Act, anything that will eliminate or diminish friction between the employer and the employe will materially assist the Commission in the satisfactory enforcement of the law. This ninety day clause is highly conducive to dissatisfaction. It is a

fruitful source of controversy and disagreement. The Commission's time is exceedingly valuable and ought to be almost solely occupied in dealing with the broader aspects of the law; and not taken up in adjusting the petty details, involved in medical and surgical treatment.

Everything that will promote harmony and co-operation between the employer and the employee, that will tend to convince them that the Act is mutually beneficial, that it was not framed to give either one an undue advantage over the other, that it is not in any sense discriminatory and that it is an honest effort in the right direction, will go a long way in helping the Commission to secure such other changes and modifications as may be found necessary to make the law still more equitable.

PROPOSED CHANGES IN THE ACT.

Even though no clauses protecting the interests of the employer and the insurance companies were added to the Act, the Act would be greatly strengthened by merely striking out the phrase, *but not exceeding ninety days.* That must be the first step taken to eradicate the evils that exist at the present time and those that will develop in the future as a direct consequence of the objectionable phrase. Viewing the Act from an entirely impartial standpoint, I feel that the surgical phase of compensation legislation, not only in our own state but in other states, is the vital factor which will make this kind of legislation enduring and progressive. It has now passed the experimental stage and, in one form or other, is going to exist in the future. As experience broadens, modifications will be made to make the laws more equitable, and in view of the preponderating influence of employers in our legislative halls, the defects in the Acts affecting the interests of the employers will be the first to be corrected, unless they can be made to see that the direct interests of the employees affect them very directly. That and the interests of the surgeons are the only excuses for this paper.

The Act must be modified and new clauses added which will protect the employers and the insurance companies from unscrupulous and avaricious surgeons, which will safeguard the economic interests of physicians, and which will do justice to the injured workmen. The best interests of the honest surgeon demand the elimination of the dishonest and incompetent physician. There are several ways in which this may be accomplished. This is a problem in legislation and my object in writing this paper is, not so much to show *how* it can be done, as to show *why* it should be done. First, the ninety day clause should be eliminated and then new clauses added, or existing clauses strengthened or so modified that they will afford the necessary protection to all against unjust discrimination.

When I began the preparation of this paper I had in mind the addition to the Act of a clause creating a Referee Board composed of physicians, to which all controversies concerning the administration of the medical phases of the law could be referred; the decisions of this board to have the same effect as decisions of the Commission and subject to the same kind of judicial appeal and review. This board, too, should have the authority to pass upon the reasonableness or unreasonableness of physicians' charges. It should have complete and comprehensive powers to investigate all disputed medical cases, subpoena witnesses, documents, etc., just as the Commission has. Section 2394-14 gives the Commission authority to appoint expert examiners and section 2394-65 allows the Commission to delegate its inquisitorial powers to these special examiners. Possibly these sections may be so construed as to make the addition of a new clause or section to the Act unnecessary. Physicians would be better judges of disputed medical questions than a board composed solely of laymen, and it is very likely that their decisions would be more satisfactory and more nearly in accordance with the medical facts in the cases.

The systematic collection of carefully compiled statistics of the various injuries suffered in all lines of industry, will eventually bear to industrial insurance the same relation that present day mortality statistics do to life insurance. In time, these statistical tables will very materially assist in the detection of fraud and collusion on the part of injured employees and dishonest surgeons. They will form an index, too, by which the efficiency of surgical services will be gauged and enable employers to select their surgeons with a great deal more discrimination than is exercised at the present time. It is hardly necessary to say though, that these statistics must be comprehensively and accurately compiled to be of value, and the facts revealed properly interpreted. Sections 2394-35 to

2394-40 and 2394-52 (10) in the Act have made provision for the collection of these statistics but what is being done along these lines I am unable to state.

Section 2394-9 (the section quoted in full in the beginning of this article), says, regarding medical and surgical services and supplies, etc., that, "the same to be provided by the employer". I most heartily favor a very rigid construction of this part of the section, making it compulsory for the employee to accept the services of the surgeon selected for him by his employer. I would go even further and add to this section a clause similar to the clause in section 2394-12, prescribing the punishment for refusal, on the part of an injured employee, to submit to an examination by a surgeon selected by the employer. This clause should read as follows: (1) (a) "So long as the employee shall refuse to submit to the treatment of the surgeon selected by the employer, or shall in any way obstruct the same, his right to begin or maintain any proceeding for the collection of compensation shall be suspended; and if he shall refuse to submit to such treatment after direction by the commission, or any member or examiner thereof, or shall in any way obstruct the same, his right to the weekly indemnity which shall accrue or become payable during the period of such refusal or obstruction, shall be barred; in case death or permanent or partial disability shall proximately result from an injury, and the injured employee shall have refused to submit to the treatment of the surgeon selected by the employer, or if he shall have refused to submit to any medical or surgical treatment, the scale of compensation provided for in Section 2394-9 shall be decreased fifty per cent."

The elimination of the phrase *but not exceeding ninety days,* and the addition of this clause to the Act will, I firmly believe, solve the various inequities pertaining to the medical and surgical phases of the Act as they exist at the present time. Employees will protest against the addition of this clause to the Act, but I am sincerely convinced that it conserves the highest interests of the employees and is giving the employers and insurance companies no rights and privileges that they do not justly possess. Employees, very likely, will oppose the adoption of this clause, saying that it deprives them of the presumably inalienable right of every free born American citizen to choose his medical attendant. That is exactly what it does do, and for the very good reason that it is for the best interests of the employee to have his physician chosen for him by those who are in a far better position to do that choosing and who would exercise better and more scientific judgment than the workman possesses. Good casualty surgery is, today, almost a specialty and demands a fine sense of discrimination of what to do and what not to do. Though the family physician of the laborer may be his ideal of what a surgeon ought to be it does not follow that he is the proper person to operate on his mangled hand or foot. In fact, where the choice of attending surgeons has been left to the employee, the results have been notoriously bad. Whether the results be good or bad, whether the incapacity be long or short, the employer must pay the bills and it is perfectly logical that he should have the right to designate the surgeon who will have charge of the case. In protecting himself he is protecting his workman against professional incompetence and graft.

Though business influence, politics, religion, conviviality and blood and lodge relationship may, and often times do, sway an employer in the choice of the surgeon to whom he sends his casualty cases, nevertheless when the services rendered by a surgeon appointed for such reasons prove unsatisfactory and affect the pocketbook of the employer, he is usually very quickly displaced and a more competent surgeon appointed in his place. Employers usually choose the surgeons to whom they send their casualty cases purely on the basis of professional competence. They are in a far better position to judge that competence than are their employees. A workman may have only one casualty experience in a lifetime, the employer is sending his men more or less frequently to the surgeon and can judge the surgeons ability and integrity accordingly. Sending all his casualty cases to one competent surgeon continuously, as he does, he is certain, too, that he will be treated fairly in the matter of fees for professional services and that the possibilities of fraud and collusion are absolutely minimized. Where the insurance companies designate the surgeon the same arguments apply.

Compulsory acceptance, by the employee, of the services of the surgeon appointed by the employer or the insurance company will prove to be a blessing to the surgeon and the employee alike. The surgeon is assured that he can treat his patient

exactly as he ought to be treated to insure the very best results. He can do this without being compelled to adapt or modify the treatment because of the whims and fickle fancies of an ignorant patient or the meddlesome advice of friends, relatives or neighbors of the injured workman. Consequently his results are far better and the patient has received better and far more scientific care than is at all possible under the present system of more or less optional choice of surgeons by the patients. The surgeon, too, is assured that just so long as he remains competent and does his duty to the patient and is reasonable with his fees, that his services will be in demand by employers of labor. Employers and the insurance companies want *results,* and they are willing to pay liberally for those results, and by results I mean, that the economic efficiency of the injured employee be preserved to the highest degree possible and that he be incapacitated the briefest length of time consistent with the securing of these results. Liberal expenditure for fees for the best services and care is true economy and no employer or insurance company will begrudge a single penny so expended.

Where Christian Scientists and others refuse to accept the services of a physician and surgeon and bad results follow such refusal, it is no more than just that they bear at least a share of the financial burden of the consequences brought about by their adherence to their opinions. That is why the fifty per cent decrease in compensation was inserted in the proposed compulsory clause.

Another proposal that I wish to make is, that one member of the Industrial Commission be a surgeon who has had a fairly liberal experience in casualty surgery. The addition of a physician to the Commission will enable it to get a deeper and more comprehensive insight into various problems whose proper solution depends, very largely, upon a broad understanding of the intricate surgical difficulties encountered in treatment of many cases. As time passes this phase of industrial insurance will demand and must receive greater consideration than it now does.

This whole matter of the inequity of the ninety day clause in the Act was very forcibly brought to my attention last summer by an experience that I had with one of the insurance companies. I am very glad to say though, that the difficulty was adjusted very satisfactorily to me and, in writing this article, I disclaim having any grievance against any employer or insurance company. This experience, though, did open my eyes to the rank injustice of the clause and the unlimited harmful possibilities contained in it. Prevention is better than the correction of the inequities brought about by this perverse little clause. If, in protecting our own best interests we incidentally protect the interests of all others affected by the operation of the Act, then in urging the elimination of the ninety day clause and the addition of a clause constructed along the lines I have suggested, we will accomplish a two-fold purpose.

I have given this matter a great deal of thought and investigation, but, in fairness to others who may not agree with my conclusions or my reasoning, I suggest that this matter be thoroughly discussed in the columns of our JOURNAL. The matter was brought up for consideration before the House of Delegates at the Oshkosh meeting and at the last meeting of the Council in Milwaukee. It has been referred to the Committee on Public Policy and Legislation for such action as they deem necessary and politic. Therefore any communication on the subject and a vigorous interchange of ideas and opinions will be exceedingly valuable in enabling them to arrive at some conclusion as to the sentiment of the fraternity in this state and the proper course of action to pursue. Communications can be addressed to the Chairman of the Committee or to the Editor of the Journal.

Though the subject may be new to many, I have been surprised to find out how many there are who have had experiences similar to the one I had. During the past winter I have discussed this matter at the meeting of three different County Medical Societies and have been much gratified at the unanimity of opinions expressed as to the desirability of eliminating the ninety day clause. If we, as a profession, supinely submit to legislative enactments detrimental to our best interests, without protesting, then we have no moral right to complain about our laws or lawmakers. Therefore, give this subject the consideration its importance deserves.

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EDITORIALS

MARQUETTE MEDICAL DEPARTMENT BECOMES A CLASS A SCHOOL.

At the last meeting of the Council on Medical Education of the American Medical Association held in Chicago, Marquette University School of Medicine was given a Class A rating. The Class A plus rating of medical schools was abandoned, so that henceforth all medical schools in the United States will be in Class A, B, or C.

The high rating of Marquette Medical Department is a source of much gratification to the medical profession of Milwaukee and the whole state of Wisconsin, as well as to the faculty of the medical school. The raising of the standard of medical education from Class C to A in the short period of two years was a tremendous task. It necessitated the expenditure of large sums of money for re-building, equipment, full time professors and instructors, the raising of the entrance requirements to two years of college work, the strict and honest enforcement of preliminary requirements, and the gradual introduction of methods of instruction based upon scientific pedagogic principles, so woefully lacking in most medical schools.

The members of the medical profession familiar with the high ideals and aims of those in authority at the medical department, feel convinced that Wisconsin will in the future be the home of no other than Class A schools, and that the work and the product will be of such a grade that the medical profession and the citizens of Wisconsin may point to it with pride.

THE MEETING OF THE WISCONSIN SURGICAL ASSOCIATION.

The second annual clinical session of the Wisconsin Surgical Association held in Milwaukee, has shown that Wisconsin has a place for a society devoted to the progress of surgery. The abundance of clinical material, its variety, and the rare cases of interest to the surgeon that were presented, demonstrate the enthusiasm of the local surgeons in their endeavor to present visiting members of the profession with a scientific feast. The X-ray exhibit, and the symposium accompanying the demonstration of the same, well repaid the attention which this exhibit attracted. A large percentage of the members residing outside of Milwaukee attended the session one or more days.

The following officers were elected: President, Dr. F. G. Connell, Oshkosh; Vice-presidents, Dr. Chas. H. Lemon, Milwaukee, Dr. J. M. Dodd, Ashland, Dr. Karl Doege, Marshfield, and Dr. D. J. Hayes, Milwaukee; Secretary-Treasurer, Dr. Daniel Hopkinson, Milwaukee; Regents, Dr. W. C. F. Witte, and Dr. A. H. Levings, Milwaukee.

TERMINAL DISINFECTION AFTER CONTAGIOUS DISEASES.

On another page of this number of the JOURNAL will be found an article by Dr. George C. Ruhland, Commissioner of Health of Milwaukee, entitled "Formaldehyde Fumigation a Failure," which points out clearly the limited value of fumigation in preventing the spread of disease. Dr. Ruhland's experience is identical with that of public health officers in other communities and the views which he expresses indicate accurately the trend of opinion at the present time. But formaldehyde fumigation is the most efficient method of fumigation which is available today, so the problem is to find a substitute for fumigation, not a substitute for formaldehyde.

We have been told with much emphasis in recent years that "public health is purchasable". There can be no doubt about the truth of this, but the trouble is that the amount of money available for its purchase in any community is limited and the medical profession must try to see to it that whatever is allowed for this purpose is used as effectively as possible.

While we have much less knowledge than we would like in regard to the life history of the common disease producing micro-organisms outside of the human body, we know enough to realize that there are great differences in their behaviour, and that no one rule will apply to all conditions.

The study of the manner of transmission of the commoner infectious diseases has been greatly stimulated in this country by Chapin of Providence, who published his work on "Sources and Modes of Infection" in 1910. Chapin's investigations led him to the conclusion that contact with other cases is *the* great factor in the transmission of the infectious diseases, except in milk-borne or water-borne epidemics, and that outbreaks of diphtheria, scarlet fever, and measles, for example, depend so completely on exposures by contact with carriers, missed cases, or cases in the prodromal stage that house or room fumigation after the patient is released sinks into absolute insignificance.

Chapin remarks in speaking of terminal disinfection: "Owing to the similarity between the two diseases it seems to me that there is probably no more value in disinfection after scarlet fever than there is in disinfection after diphtheria. In fact in any disease which is widely distributed, and in which there is ample opportunity for extension from mild cases, from carriers, from cases in the early stages, and from convalescents, the absolute disinfection of all possible fomites at the assumed termination of the sickness will probably have no influence in checking the disease. * * * *

"There are several objections to the present practice of terminal disinfection. One is that it only partially disinfects. If disinfection is to be honestly and efficiently applied, methods must be changed. But even as now practiced disinfection is expensive. Many cities employ disinfectors, with horses and apparatus, while their laboratory languishes, their medical inspection is poor and their diphtheria patients must secure antitoxin as best they can. Another serious objection to routine terminal disinfection is that it misleads the public. They are given a false sense of security, and they are encouraged in the old belief that it is things, not persons, which are dangerous. We can never successfully preach the truth about carriers, or teach the necessity for stricter personal cleanliness, so long as we continue to make so much of a fetish of the practice of disinfection.

"I am here referring to terminal disinfection, which is often only a fumigation, or smell-producing process. The continued practice of cleanliness all through the sickness, and indeed at all times, by which the transference of fresh infective material may be prevented, is another matter."

The small percentage of recurrences reported by Dr. Ruhland for the period since fumigation has been omitted compares very favorably with the results reported by Chapin which are quoted in the Journal A. M. A. for June 27, 1914: "During the years 1904-1909, when room disinfection was practiced, scarlet fever developed in 2,428 families with 36 recurrences, a percentage of 1.48; during 1909-1912 (no-disinfection period), there were 1,704 infected families and 26 recurrences, a percentage of 1.53. A similar comparison for diphtheria gave a percentage of recurrences of 1.71 in 1,457 infected families after disinfection and 1.75 in 3,658 families during the period of no disinfection. The same conditions are shown by a similar comparison of the number of cases developing among susceptible persons, mostly children who had been sent from home during the progress of the disease and returned at the end of the isolation period.

"Between 1889 and 1904, 1,013 persons, mostly children of school age, returned to their homes fol-

lowing disinfection after diphtheria. Of these, nine, or 0.88 per cent., contracted the disease. Since the beginning of 1905, 836 persons, mostly children have returned to their homes where there had been no disinfection. Of these, seven, or 0.84 per cent., contracted diphtheria. Of these, five were in 1912. Of 1,659 persons who had never had the disease, thus returning to disinfected houses after scarlet fever, twelve, or 0.72 per cent., developed scarlet fever. Of 284 persons thus returning where there was no disinfection, three, or 1.05 per cent., contracted the disease."

The discredit into which fumigation seems to be falling rapidly does not mean that neglect of all precautions is to take its place. But it does mean that medical asepsis should rise to a higher plane, just as surgical asepsis has risen above the level of the carbolic spray of the early days of Lister.

THE NINETY DAY CLAUSE IN THE WORKMEN'S COMPENSATION ACT.

The difficulties raised by the "Ninety day" clause in the Workmen's Compensation Act are well set forth by Dr. W. F. Zierath of Sheboygan in the article on the subject included in this number of the JOURNAL. There can be no question about the hardships inflicted upon both the employee and the physician by this arbitrary time limit. It may be perfectly true, as the chairman of the Industrial Commission states, that this is the longest period of medical attendance furnished by any compensation act excepting that of California. The trouble is that any rigidly fixed time limit is bound, by the nature of the case, to produce occasional hardships.

Dr. Zierath is of the opinion that the entire removal of the time limit is required. It is probable that a proposal to remove the limit entirely would meet with violent opposition from the employers and from the insurance companies.

This opposition might be avoided and the hardships of the present rule removed if the Industrial Commission were given authority to lengthen the period when conditions warranted it. This would give to the measure the elasticity which it lacks at the present time, and it would tend to remove the fear of being imposed upon, from which the employers and the insurance companies seem to be suffering.

It is true it would increase the tasks of the Industrial Commission but as cases of prolonged disability are not common the added burden would not be unreasonable.

In the meantime, until some relief is provided, it would seem wise for medical men who are confronted with problems of this character to report the situation fully to the Industrial Commission and endeavor to get instructions from them regarding the individual cases.

A METHOD OF TREATING COMMON COLDS.

Common colds, or inflammation of the respiratory tract, localized either in the upper or lower portion of said tract, are extremely common, and are undoubtedly of a contagious nature.

The exact relationship of the various organisms found in the secretions to the pathological condition is not by any means clear.

Colds of this type are oftentimes more uncomfortable than immediately dangerous, but they may be, undoubtedly, in some instances followed by more severe and even fatal infections.

Persons suffering from such colds should, therefore, be isolated, as far as that may be possible, and every effort should be made to render the secretions of the nose and mouth harmless.

In this connection attention may be called to a method of local disinfection said to have been practised successfully among employees of a large city department store.

"A small saucepan, or the bottom of a chafing-dish, heated by an alcohol lamp or gas stove, is to be set up in a small room, such as a bath-room. Use a pint of water, in which has been put five teaspoonfuls of formalin (Schering's).

"The person with a cold in the head, the nearer the beginning of it the better, goes into the room in which this vaporizing outfit has been started. Doors and windows are closed. The patient does not get close to the apparatus, but sits any place in the room, perhaps reading a book, and stays there as long as it is possible to breathe, till it seems, indeed, as if the next breath would cut like a knife. It usually takes about eight minutes. The patient then turns out the lamp and leaves the room. One such treatment will stop a cold in its

first few hours. Two or three treatments at four-hour intervals will suffice on the second day of the cold."

The success attending this method of treatment of common colds would certainly warrant its trial in more serious infections of the respiratory tract.

MANUAL OF PRACTICAL HYGIENE,

By Harrington & Richardson.

CORRESPONDENCE

Chicago, Ill., April 22, 1915.

Rock Sleyster, Sec.,
State Medical Society of Wisconsin,
Waupun, Wis.

DEAR SIR:—In accordance with a personal request from Dr. J. R. Pennington, Chairman Transportation of the A. M. A., the Chicago Medical Society herein extends cordial invitation to the members of the State Medical Society of Wisconsin to join Special Train Party leaving Chicago, Minneapolis, St. Louis and Memphis, June 17, merging at Belleville, Kansas, at 6:15 P. M., June 18th. Thence C. R. I. & P. R. R. to Colorado Springs, D. & R. G to Salt Lake, Western Pacific to San Francisco, arriving June 21st.

Owing to the vast number of people that will attend the Exposition, as evidenced by the unusually large attendance that has already commenced to move (more than double that to both the St. Louis and Chicago Expositions), the importance of having actual room reservation guaranteed by a responsible company, together with the comfort and convenience, justifies us in congratulating ourselves that we have been able to make such satisfactory arrangements with GREGORY TOURS, who are the officially appointed "Tour Agents" to the Exposition.

In order to secure hotel accommodations in connection with the service outlined, it is necessary to communicate at once with Dr. R. R. Ferguson, 3923 North Keeler Ave., Chicago, Ill.

The Milwaukee rate is $144.50 for the same service.

Yours very truly,
CHICAGO MEDICAL SOCIETY,
Per DR. R. R. FERGUSON,
Chairman Transportation Committee.

NEWS ITEMS AND PERSONALS

DR. GALENS NEDRY, Chicago, and Dr. H. M. Nedry, Medford, have formed a partnership at Medford.

DR. A. F. LYON-CAMPBELL, for the past seven years located at Dunbar, has been appointed to the position of mine surgeon at Florence to succeed the late Dr. H. P. Chambers. Dr. Campbell will be succeeded at Dunbar by Dr. J. H. Gibson of Green Bay.

DR. T. F. MANNING of Burgess, Illinois, who practiced at Lomira a number of years ago, has accepted a position as assistant physician at the Anna State Hospital, Anna, Illinois.

DR. C. H. SCHMITT, Dodgeville, who for some time past has been in the employ of the government at Louisville, Ky., has returned to Dodgeville and resumed his practice.

After a fight which has lasted a year as to whether Dr. Staehle or Dr. Meany was Manitowoc's health officer, Dr. Staehle will be named, the Supreme Court having so decided.

DR. T. P. RUSSELL, Oshkosh, believed to be the oldest practicing physician in the State of Wisconsin, on April 22nd celebrated the 88th anniversary of his birth. Dr. Russell has practiced at Oshkosh since 1854.

DR. N. L. HOWISON was on April 22nd re-elected city physician of Menomonie.

DR. LEO J. DRETZKA, Milwaukee, has received the civil service appointment as superintendent and surgeon-in-chief of the new Detroit City Hospital. Although the hospital will not be opened until July 1st, Dr. Dretzka will be employed after May 1st in purchasing and fitting out the hospital with the necessary equipment.

DR. P. A. BEEBE, Glenwood City, has returned home from a winter's sojourn in Mississippi and Louisiana.

DR. MICHAEL J. PURCELL, formerly of Madison, and now of Chicago, was on April 28th appointed City Physician of Chicago by Mayor W. H. Thomp-

son. The appointment, made from a large list of competing physicians, is considered singular approval of the young physician's ability.

Dr. J. Y. Potter, New London, is convalescing from a recent serious operation.

Drs. A. L. Curtin and J. G. Hirschboeck, Milwaukee, were appointed house physicians for Emergency Hospital. Dr. Curtin takes the place of Dr. R. L. Williams, who recently resigned to become assistant superintendent of Wales sanatorium; Dr. Hirschboeck will take the place of Dr. F. M. Scheele, who resigns July 1st, to enter private practice.

Dr. C. E. Lauder of Viroqua, is recovering from the effects of an attack of ptomaine poisoning, which he suffered while in Chicago recently.

Of 5,000 school children in La Crosse private and public schools those unable to pay will have their teeth cared for without charge. The campaign is under the supervision of the La Crosse Health Department.

A stock company has been formed to build a $75,000 hospital at Wausau.

State Health Officer C. A. Harper on April 24 reported contagious diseases in Wisconsin for January, February and March as follows: diphtheria 604 cases, typhoid fever 121, whooping cough 241, small-pox 827, scarlet fever, 851, measles 668, tuberculosis 455, meningitis 27, and 4 cases of infantile paralysis, two of the latter in Chippewa County and two in Kenosha County.

Milwaukee physicians have received post card notices from State Health Officer C. A. Harper informing them of the passage by the legislature of an amendment doing away with the requirement for filing notices of accidents. This provision is abolished by Chapter 38, laws of 1915. Dr. Ruhland, the health commissioner, commenting on the change says: "I consider it a backward step to fail to keep a record of accidents. In the past we have had a complete record showing the nature and frequency of accidents, and I am sure that the data have been of help in framing preventive measures."

Wisconsin is to train its own health experts. An apprentice school for the development of trained workers will be opened by the Wisconsin Anti-Tuberculosis Society in the University Extension Building, Milwaukee, in June. Dr. Hoyt E. Dearholt, secretary of the Wisconsin Anti-Tuberculosis Association will be in charge of the school. Two $500 scholarships will be awarded by the Anti-Tuberculosis Association as honors for the best work done during the first six weeks of the summer session. For the present at least there will be no tuition fees, no arbitrary period of study and no set line of study for the apprentices, except in the broadest way. Only a limited number of students will be accepted and the work will be made individual. While it is expected that the majority of registrations will come from the University of Wisconsin, a university education is not required.

EXAMINATION OF CANDIDATES FOR ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH SERVICE.

Boards of commissioned medical officers will be convened to meet at the Bureau of Public Health Service, 3 "B" Street, S. E., Washington, D. C., and at the Marine Hospitals of Boston, Mass., New York, N. Y., Chicago, Ill., St. Louis, Mo., Louisville, Ky., New Orleans, La., and San Francisco, Cal., on Monday, June 21, 1915, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health Service, when applications for examination at these stations are received in the Bureau.

Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, and must furnish testimonials from two responsible persons as to their professional and moral character. Service in hospitals for the insane or experience in the detection of mental diseases will be considered and credit given in the examination. Candidates must have had one year's hospital experience or two years' professional work.

Candidates must be not less than 5 feet 4 inches, nor more than 6 feet 2 inches in height, with relatively corresponding weights.

The following is the usual order of the examinations: 1, Physical; 2, Oral; 3, Written; 4, Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate and that they will serve wherever assigned to duty.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists of examination in the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital.

The examination usually covers a period of about ten days.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Assistant surgeons receive $2,000, passed assistant surgeons $2,400, surgeons $3,000, senior surgeons, $3,500, and assistant surgeon generals $4,000 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address "Surgeon-General, Public Health Service, Washington, D. C."

MARRIAGES

Dr. Herbert T. Barnes, Pewaukee and Miss Hazel Ryan, Fond du Lac, April 29th.

REMOVALS

Dr. A. L. Olson, Deerfield, has removed to Stoughton.

Dr. R. C. Pfeil, Antigo, has located at Thiensville.

Dr. David Davidson, New York City, has located at New London.

Dr. E. P. Carlton of Twin Brooks, South Dakota, formerly located at Keyeser, Wis., has removed to De Forest.

Dr. Frank Babcock, for the past three years associated in the practice of medicine with his father, Dr. I. G. Babcock, at Cumberland, has removed to Haugen.

Dr. A. Sommerfelt, recently of Minneapolis, has opened an office for the practice of his profession at Hudson.

Dr. Newton Weston Hall, Des Moines, Ia., has removed to Mondovi where he is associated with Dr. Amundson in conducting the Mondovi Hospital. Dr. Hall has charge of the surgical work at the hospital.

Dr. F. H. Russell, Omro, has disposed of his practice to Dr. Frank Fleury of Manderson, Wyoming, and will remove to Neenah.

DEATHS

Dr. Sherman Edwards, for the past year located at Milwaukee, formerly of Oakland, Wisconsin, died on May 3rd, aged 47 years. Dr. Edwards was a graduate of Rush Medical College, class of 1893.

Dr. Ralph R. Chase, Eau Claire, died on May 4, of heart failure, aged 55 years. He was born at Lima, Livingstone County, New York, in 1860 and came to Eau Claire in 1889 immediately after his graduation from the University of Minnesota Medical School. He was a member of the Eau Claire Medical Society.

Dr. Bernard G. Maercklein, Milwaukee, aged 67, surgeon, dentist, and one of the founders of the old Milwaukee Medical College, now Marquette University Medical School, died on May 1st, of cancer. Dr. Maersklein was born in Gartz-on-the-Oder, Pommerania, Germany, in 1848, and migrated with his parents to America five years later. The family settled at Saukville, Wisconsin, where he lived until 1873, when he came to Milwaukee.

He was graduated from the University of Pennsylvania with both medical and dental degrees. He specialized in dentistry and oral surgery, and in the latter department attained state-wide renown. For many years he was professor of oral surgery at Marquette, and when he retired from active work was honored with the title of professor emeritus.

Dr. Robert Cottington, Bloomer, died on April 17th, aged 67 years. Dr. Cottington was born in Waterville, Oneida County, N. Y., on February 22, 1848, and came with his parents to Winfield, Sauk County, Wisconsin, in 1851. For two years he lived in Missouri, 1869-1871. In 1871 he was married to Miss Rose Clark. Shortly after his marriage he returned to Winfield where Mrs. Cottington died in 1872. In 1875 he married Miss Ida Bernhart of Reedsburg. He graduated from Rush Medical College in 1877, and came to Prairie Farm where he practiced until 1880, when he went to Bloomer to practice. In 1891 he removed to Rice Lake practicing there for three years, from there he went to Reedsburg, returning to Bloomer in 1894.

He was an honorary member of the Chippewa County Medical Society.

ABSTRACTS

A Case of Acute Chinin Poisoning with Permanent Intense Contraction of the Visual Field. Von Speyr, Th., Chaux-de-Fonds, Switzerland. (Klin. Mon. f. Aug., 53, p. 393). A woman, aged 41, took, three months ago, 2 teaspoonfuls of chinin powder (2.00 each), but vomited immediately after the second dose. She stated that after five minutes she was drowsy, lost her hearing and sight. The hearing returned within two days, but the eccentric vision was lost. S. found V. R. 0.9, V. L. 0.8, visual field contracted, R. to from 3 to 5, L. to from 5 to 8. Central perception of colors good in left eye, good for red and yellow, difficult for blue and green, in right eye. Miosis, pupillary reaction sluggish. The retinal arteries were contracted to from one-third to one-fourth of their normal width, surrounded by white sheaths, the retinal veins R. to two-thirds, L. to one-half of their normal width. The disc showed in both eyes funnel shaped excavation, but no atrophic pallor. The macula was red, surrounded by a light opaque area, similar to that in embolism of the central retinal artery. The chorioidal vessels were clearly visible, but not changed.

C. Zimmermann.

Acute Attack of Glaucoma After Instillation of Holocain Zinc Solution? Gjessing, H., Drammen, Norway (Klin. Mon. f. Aug. 53, p. 379). The left eye of a man, aged 79, had become plainful and inflamed about ten years ago with several relapses, ending a few years ago in blindness. The right eye showed incipient cataract, and G. performed a preparatory iridectomy. At the time the left eye was pale and not painful, but showed incipient cataract. For a tonometric examination a drop of 1% holocain solution was instilled. T. was found 53mm Hg. Immediately after the examination 1 drop of a 1% solution of zinc was given. After 15 minutes a typical attack of glaucoma set in with headache on that side nausea, pain in eye, intense injection, chemosis and edema of the palpebral conjunctiva. It subsided after pilocarpin and eserin, warm applications, and rest in bed.

G. explained this acute attack in the following way: the tension of 53mm Hg. of this eye was the determining limit, so that glaucoma cum haemostasi intermittente had to be assumed. Both drugs, each of which alone is hardly able to produce hypertony by hyperemia, in combination were capable of doing it.

C. Zimmermann.

Vitiligo of the Lids and Poliosis After Contusion. Steindorff, Kurt, Berlin (Klin. Mon. f. Aug., 53, p. 188). A woman, aged 25, sustained at the age of about 4 years, a contusion on the left side of the forehead, without hemorrhages. After some time the hair at the vertex in an area of the side of the tip of a finger, and a vertical stripe of the skin of the forehead, 1cm wide, became white. Then the corresponding portions of the eyebrow, skin of the upper lid, and the lashes of both lids turned white. Soon the hair regained its former color, and after a few years the skin of the forehead became normal, but the eyebrow, skin of the lids and lashes, remained light. Miscroscopically the cortex of the epilated lashes contained not a trace of pigment. The medullary substance appeared as a dark stripe composed of very fine dots, which disappeared in hot water, showing that these were not pigment granules, but air.

Vitiligo and canities of the lashes after blunt injury, as in this case, have never been observed before, and there is only one publication on traumatic vitiligo by Chajes. S. assumes a trophoneurotic affection, due to disturbances of blood and lymph circulation caused by the lesion of the trophic nerves of the forehead. This is supported by a case of Cassirer who saw in a nervous woman aged 20, of a nervous family, after a strain combined with fright, left sided ptosis, miosis and sudden canities of a mustache. The oculo-pupillary symptoms disappeared, but the canities remained.

There are reliable observations of sudden canities over night. These can only be due to accumulation of air, not to disappearance of pigment.

C. Zimmermann.

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NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 6-8, 1915.

The Wisconsin Medical Journal, Official Publication

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Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	Burton Clark, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	Hugh F. Waters, Nekoosa	W. G. Merrill, Grand Rapids.

SOCIETY PROCEEDINGS

ASHLAND-BAYFIELD-IRON COUNTY.

The Ashland-Bayfield-Iron County Medical Society has prepared a program for the year 1915 which is worthy of study by the program committees of other county societies.

Jan. 16th—Hospital Meeting.

Open Meeting.

Presentation and Discussion of Cases.

Jan. 25th—Knight Hotel—8:15 P. M.

(1) The Legal Status of the Medical Expert in this State.
Mr. William F. Shea.

(2) The Workman's Compensation Act.
Mr. C. A. Lamoreux.

February 13th—Hospital Meeting.

(1) Etiology and Early Diagnosis of Syphilis.
Dr. Smiles.

(2) Methods of Treatment of Syphilis.
Dr. Sincock.

(3) Syphilis as a Factor in the Social Life of the Community.
Dr. Shaw.

Discussion:
Drs. Harrison, Axley, Hannum.

February 22nd—Knight Hotel—8:15 P. M.

The Present Status of Nervous Syphilis.
Dr. Ernest H. Hammes, St. Paul.

March 13th—Hospital Meeting.

(1) The Newspaper and the Physician.
Dr. Wenzel.

(2) The Druggist and the Physician.
Dr. Law.

(3) Ethics.
Dr. Hertzman.

Discussion—Drs. Braun, Johnson.

March 24th—Knight Hotel.

Guest Evening—Dinner, Dance, Cards.

April 10th—Hospital Meeting.

(1) The Significance of Hematuria, Pyuria, Indicanuria.
Dr. Lockhart.

(2) Diagnosis and Treatment of Calculus in the Kidney—In the Ureter.
Dr. O'Brien.

(3) Bright's Disease.
Dr. Hosmer.

Discussion—Drs. Dodd, Dietrich, Spears.

April 26th—Knight Hotel—8:15 P. M.

Cystoscopy. Dr. Stroehhaeur, St. Paul.

May 8th—Hospital Meeting.

(1) Etiology and Early Diagnosis of Arteriosclerosis.
Dr. A. P. Andrus.

(2) Prophylaxis of Diseases of the Arteries.
Dr. Mertens.

(3) Blood Pressure—Methods of Taking and Significance.
Dr. Dell Andrus.

Discussion—Drs. Tartar, Fletcher.

May 21st—Knight Hotel—8:15 P. M.

Heart Lesions. Dr. Edward L. Tuohy, Duluth.

June —Joint Meeting with the Interurban Society of Duluth-Superior.
(Details later.)

Sept. 8th—Hospital Meeting.

(1) Treatment of Convulsions in Infants and Children.
Dr. Stebbins.

(2) The Early Diagnosis of Tuberculous Meningitis.
Dr. Harrison.

(3) Diagnosis and Treatment of Cerebrospinal Meningitis.
Dr. Jackson.

Discussion—Drs. Hertzman, Sincock, Uren.

September 28th—Knight Hotel.
Booster Evening.
Medical Ideals and the County Society.
Dr. Rock Sleyster, Waupun.
Smoker.

October 14th—Hospital Meeting.

(1) Etiology of Exanthemata.
Dr. Dietrich.

(2) Differential Diagnosis of Rubella and Rubeola.
Dr. Johnson.

(3) Eye Complications.
Dr. Braun.

Discussion—Drs. Shaw, Smiles.

October 29th—Knight Hotel—8:15 P. M.

The Doctor's Position in the Community.
Rev. Koons.

November 10th—Hospital Meeting.

(1) Etiology of Goitre.
Dr. Ringo.

(2) Diagnosis of Goitre.
Dr. Frye.

(3) Treatment of Goitre.
Dr. Dodd.

Discussion—Drs. O'Brien, Andrus.

Appointment of Program Committee for 1916.

November 30th—Knight Hotel—8:15 P. M.
The Surgical Treatment of Goitre.
(Speaker to be announced later.)

December 11th—Knight Hotel—7:00 P. M.

Banquet and Annual Meeting.

Papers of members limited to 15-20 minutes.

Discussion to include any one or all papers and to follow the last.

Regular meetings to be held at St. Joseph's Hospital.

Cases to be presented at any time after regular program, providing complete histories accompany.

Reports of unusual and interesting cases, with complete data, to be published by members, at the sanction of the society.

BROWN-KEWAUNEE.

Brown-Kewaunee Medical Society met at the Clinic Building, Green Bay, on April 9th. Illustrating his talk with lantern slides Dr. W. E. Houston spoke on Modern Treatment of Fractures. The lecture was very interesting and the slides emphasized many points made by the speaker. Dr. H. P. Rhode spoke on The Kidneys, handling the subject from various angles. About thirty-five physicians were present at the meeting, a large number from out of the city attending. Following the regular program a lunch was enjoyed, and this was followed by a smoker.

DOUGLAS COUNTY

At the meeting of the Douglas County Medical Association held at the Commercial Club Rooms, Superior, on April 8th, the members discussed the proposal to secure the establishment of a branch state health laboratory for Superior. The matter has been under consideration for some time. Superior physicians are especially desirous of securing a state laboratory here. At present tests must be made at Madison, and great delay frequently occurs. Members of the city commission have passed a resolution asking that a laboratory be located here, and the county board has been requested to take similar action. The laboratory would be used for the making of tests for all of northern Wisconsin.

MARATHON COUNTY

The regular monthly meeting of Marathon County Medical Society was held at the Wausau Club, April 29, 1915. After a dinner a very good program was given. The Harrison Law was ably discussed by Attorney C. B. Bird of Wausau. The Society went on record as being in favor of having the State Laboratory equipped sufficiently so that a Wassermann test may be made at little or no cost to the physicians of the State.

R. M. Frawley, M. D., *Secretary.*

SHAWANO COUNTY

Shawano County Medical Society held its regular quarterly meeting in the directors room of the 1st National Bank at Shawano on April 15, with the president, Dr. C. E. Stubenvoll in the chair. Drs. W. E. Mueller of Shawano and W. D. Krebs of Cecil were made members of the Society. Interesting papers were read by Drs. A. J. Gates of Tigerton, Max Schung of Bonduel and H. J. Calkins of Shawano. After the meeting a banquet was held at the Murdock House. Dr. L. Rothman has charge of the next meeting which will be held in July at Wittenburg.

WAUKESHA COUNTY

The monthly meeting of the Waukesha County Medical Society was held at the Municipal Hospital on April 10th. Dr. G. E. Peterson of Waukesha presented a paper, and there was an exhibit of X-ray photographs by Dr. C. A. H. Fortier of Milwaukee.

WISCONSIN SURGICAL ASSOCIATION

Dr. F. G. Connell, Oshkosh, was elected president of the Wisconsin Surgical Association at its meeting in Milwaukee, May 6th. Other officers are: Vice-presidents, C. H. Lemon, Milwaukee; J. M. Dodd, Ashland; Karl Doege, Marshfield; D. J. Hayes, Milwaukee; Secretary-treasurer, Daniel Hopkinson, Milwaukee; regents, W. C. F. Witte; A. H. Levings, Milwaukee.

MILWAUKEE OTO-OPHTHALMIC SOCIETY.

At the regular meeting of the Milwaukee Oto-Ophthalmic Society held on Tuesday April 20th, 1915, there were present 16 members and 6 guests.

The following interesting papers were read and discussed: Paper and Demonstration on the Intranasal Partial Resection of the Tear Sac, Dr. J. Sheldon Clark, Freeport, Ill.; Stammering and its Treatment, Dr. H. F. McBeath; Cartilage and Bone in the Tonsil, Dr. W. E. Grove.

G. I. Hogue, M. D., *Secretary.*

OSHKOSH MEDICAL CLUB

April 14th.

The Oshkosh Medical Club met on April 14th at the Lakeside Sanitarium and an interesting program was given. Dr. H. W. Morgenroth presented a paper on "Accessory Sinuses", and Dr. J. M. Hogan one on "Nervous Diseases of Children".

April 28th.

The Oshkosh Medical Club met at the Northern Hospital, Winnebago, on April 28th. Dinner was served at 6:30, which was followed by a clinic by Dr. Adin Sherman and his staff. This was a joint meeting of the Oshkosh Medical Club and the Winnebago County Medical Society.

An amalgamation of the Oshkosh Medical Club and the Winnebago County Medical Society may be effected if plans projected at this meeting are carried through.

ABSTRACTS

On the Histological Conditions of Eyes of Monkeys, Made Myopic, and the Origin of Myopia. Levinsohn, George, Berlin (von Graefe's Archiv f. Ophth., 88, p. 452), gradually produced high myopia with not intense, but very characteristic, myopic changes in the eyes of monkeys, which were restrained for several hours of the day in a horizontal position, so that the sagittal axes of the eyes had a vertical direction. The first monkey had after six months an increase of refraction to 11 and 12D, the second to 7 and 9D. The ophthalmoscope showed a temporal conus and a nasal supertraction crescent. The anatomical changes were produced by obliquity of the entrance of the optic nerve, enlargement of the anterior entrance of the scleral canal, very intense supertraction of the elastic lamina plus pigment epithelium at the nasal side, under attenuation of the nasal scleral wall and its blending with the dura of the optic nerve, considerable reduction of the temporal edges of the sclera, retraction and detachment of the elastic lamina plus pigment epithelium, tortuosity of the optic fibres at their transit through the sclera so that the fibres formed a very acute angle at the nasal side, several very marked convolutions at the temporal side then retraction and atrophy of the chorioid at the temporal margin of the disc, obliquity of the retinal layers, crowding of the central vessels to the nasal wall of the scleral canal, thickening of the superposed bordering tissue at the temporal margin of the optic nerve, incipient rarefaction of the pigment epithelium at the temporal side. These changes corresponded to the ophthalmoscopic temporal conus and nasal supertraction crescent.

L. explains the pathogenesis of these anatomical changes by his theory of myopia set forth in former communications. The force mobilized in stooping of the trunk and head by the gravitation of the eye, viz., the traction of the eye at the entrance of the optic nerve in sagittal and nasal directions must produce changes, characteristic for myopia and obtained in his experiments. It flattens the edge of the temporal margin and produces here a retraction of the elastic lamina and pigment epithelium, and a supertraction at the nasal border.

The therapeutic measures of school myopia must consist in diminishing the disposition to expansion of the eye by strengthening the whole organism and in preventing the stooping of the trunk and head during growth. C. Zimmermann.

Psammona at the Anterior Angle of the Chiasm. Heinrichsdorff, P., Breslau (Klin. Mon. f. Aug., 53, p. 185), found at the postmortem examination of a woman who had died from general arteriosclerosis and granular atrophy of the kidneys, a grayish red nodular tumor the size of a cherry at the anterior angle of, and below, the chiasm without connection with it. The left optic nerve was lifted in form of an arch around the tumor by which it had been flattened. The tumor lay immediately before the infundibulum, from which it could be easily detached, although it extended into the sella turcica and possibly exerted a slight pressure on the hypophysis. These relations to the adjacent parts are easily conceivable from the origin of the tumors, known as psammomas, from the endothelia of the lymphatic spaces of the dura mater. A similar small tumor was discovered on the dura mater of the inner surface of the frontal bone. The tumor showed all characteristics of psammoma; heaps and bands of short spindle cells, within these hyaloid conversion of the cells and globules of lime. Clinically there were no visual disturbances. If the tumor had grown one would have expected bitemporal hemianopsia and atrophy of the optic nerves, especially the left. C. Zimmermann.

On Scotomas and the Importance of Lumbar Puncture in Luetic Diseases of the Optic Nerve. Igersheimer, J. (From the eyeclinic of Prof. E. von Hippel in the University of Halle, Klin. Mon. f. Aug., 53, p. 63.) The central nervous system is very frequently affected in syphillis and especially in the early period much more frequently than until recently supposed. On account of its intimate relations to the brain, the optic nerve is very often involved, most frequently by propagation of syphilitic granulations from the chiasm to the intracranial portion. As the process at the chiasm affects mainly the meninges, and the nervous tissue secondarily, the same modus must be assumed for the origin of the inflammation of the optic nerve. The clinical symptoms commence with a peripheral or sectorlike contraction of the visual field with normal disc, or slight inflammatory phenomena. In the further course a visible optic atrophy may develop in consequence of the pressure of the tumor mass in the intravaginal space. Papillitis is rare and occurs only if the gummatous masses in the intravaginal space proliferate very far forward, or if the tumor presses on the chiasm.

I. discusses here the other form of luetic diseases of the optic nerve, the so-called retrobulbar neuritis. For this usually an inflammatory process in the orbit has been assumed, independent of an affection of the central nervous system. I., however, observed in his material, and also from literature, that especially cases with development of scotomas, which showed a participation of the optic disc, exhibited general symptoms of the central nervous system. He therefore concludes that the affection of the optic nerve is not co-ordinated with, but dependent upon, the disease of the brain, similar to the neuro-relapses after insufficient anti-luetic treatment, in such a way that either the specific products extend in the intervaginal space to the peripheral portion of the optic nerve or that spirochaetae travel from the chiasm peripherally and elicit a new process.

Thus the pathogenesis of central or paracentral scotomas in luetic affections of the optic nerve is due, 1., to inflammatory process propagated from the parenchyma of the chiasm in the interior of the intracranial portion of the optic nerve, and, 2., to inflammatory processes of the orbital optic sheaths, encroaching upon the temporally located papillomacular fascicle. In both cases the primary affection is a specific disease of the central

nervous system, mostly basal meningitis. I., however, does not deny the occasional occurrence of an independent luetic affection of the optic nerve.

Generally the ophthalmologist does not see the severe forms of cerebral lues, and, as the only sign, the lumbar puncture reveals the participation of the central nervous system. I. therefore advocates the employment of lumbar puncture, which so far has not been sufficiently appreciated by ophthalmologists. Five pertinent cases are reported in detail. C. ZIMMERMANN.

BOOK REVIEWS

DIAGNOSTICS OF THE DISTURBANCES OF THE COLOR SENSE. Stargardt, Prof., and Oloff, Marine-Surgeon, Kiel. 45 pp. Berlin. Julius Springer. 1912. This brief guide to the examination for color sense will be especially welcome on account of its practical value, as the authors, who for years conducted the color tests on the abundant material of the German Navy, speak from an unusually large experience. After chapters on the importance of the examination for color sense for the avoidance of accidents and the consideration of the social conditions of the applicants, on the normal color sense, and its theories, the disturbances of the color sense and their diagnosis are very clearly set forth with a critical discussion of the merits of the most important methods for their detection, and direction for the use of the anomaloscope of Nagel, the most reliable test in doubtful cases. We highly recommend the useful work.

C. ZIMMERMANN.

ON THE CAUSAL CONNECTION OF CHRONIC EYE DISEASES WITH SO-CALLED ARTICULAR RHEUMATISM, ESPECIALLY WITH CHRONIC PROGRESSIVE POLYARTHRITIS ANCHYLOSANS ET DEFORMANS. Stuelp, O., Mühlheim a. R., (Zeit. f. Aug., 32, p. 341 and 435), gives, after a review of literature, especially Poncet's doctrine of rheumatism tuberculeux, which S. does not recognize as proven, and the report of 9 cases, the following resume: All chronic diseases of the joints (primary or secondary mono-, oligo-, or polyarthritis) are not rheumatic, hence eventual complicating ocular affections are not to be regarded as rheumatic and not to be treated antirheumatically. Tuberculosis is not the sole common cause of the combination of the extant diseases of the organs, but a careful general examination will show different, mostly multiple, and perhaps co-operating, etiological elements, especially acute and chronic infectious diseases, angina-sepsis, gonorrhea, lues, arteriosclerosis, chronic lead poisoning, indicanuria, and other acute infectious diseases. The etiological therapy must, as S.'s cases show, be directed against all causes by combined methods of treatment. C. ZIMMERMANN.

LOCAL AND REGIONAL ANESTHESIA. Allen, Carroll, W., New Orleans. With an introduction by R. Matas, New Orleans, 625 pp., illustrated. W. B. Saunders Co., Philadelphia and London. 1914. As there existed no book in the English language that gives a full presentation of the entire field of local anesthesia the author has filled by this elaborate work a real want. It is preceded by an introduction by Prof. Matas who has largely contributed to the development of this method of anesthesia in this country, as the many references to, and quotations from, his works in the discourse attest. Starting with a very interesting chapter on the history of the efforts of the human race to find means to control pain during operative procedures, nerves and their sensations, especially pain, osmosis and diffusion, the anesthetic effects of pressure-anemia, and cold and water anesthesia, are discussed, then the individual anesthetics, toxicology, adrenalin, principles of technic, the use of morphine and scopolamin and combined methods of anesthesia, indications, contraindications, shock, anoci-association of Crile, intraarterial and intravenous anesthesia. The greatest space is devoted to the systematic detailed description of the methods of anesthesia suitable to operations in the different regions of the body, including the eye, ear, nose and throat and dental anesthesia, with special chapters on spinal analgesia and epidural injections on paravertebral and parasacral anesthesia. Tables of the technic of injections employed for the individual teeth, the sensory innervation of the head and neck with mucous membranes and meninges, and compilation of investigations on the skull as to measurements, table of contents and a well prepared index conclude the book, which has in front a table of contents. The subject is exceedingly well presented in a most pleasant style by the author who was especially qualified for writing the work, as, to speak with Prof. Matas, "he has assiduously cultivated the technic in all its variations, many of which are his own, whose steadfast loyality to these methods for many years has been rewarded by a reputation for special skill and judgment in their application which is eminently deserved." Thus the conscientious and practical, handsomely gotten up, work will prove not only a very useful guide but will help to strengthen and diffuse the methods more widely.

C. ZIMMERMANN.

THE EFFICIENCY OF THE EYE UNDER DIFFERENT SYSTEMS OF LIGHTING. Ferrer, C. E. (Ophthalmology, 10, p. 622.) In 1911 the American Medical Association appointed a committee to study the effect of different lighting systems on the eye. Ferrer, who shared in the work of this committee, reports on the results. The best lighting system is not the one that gives the maximum acuity of vision for the momentary judgment or the highest level of efficiency for the fresh eye, but the one that gives the least loss of efficiency for a period of work, and the maximum of comfort. Ferrer sets forth the reasons why the loss of efficiency seems to be predominantly, if not entirely, muscular, the muscles giving both fixation and accommodation being subjected to a greater strain by the systems of direct and semi-indirect lighting than by the system of indirect lighting and daylight. In general 3 aspects of lighting have an important relation to the efficiency and the comfort of the eye, viz.: the distribution of light and surface brightness in the field of vision, the intensity and quality. The best results are given by the systems that give the best dis-

tribution of light and surface brightness. A very wide range of intensity is permissible for daylight and indirect system. For the direct system no intensity can be found for which the eye does not lose a very great deal of efficiency as the result of work. Thus it seems that distribution is fundamental and the most important factor we have to deal with in our search for the conditions that give the minimum loss of efficiency and the maximum comfort of seeing.

The question whether or not white or colored light is better for the eye cannot be answered until definite tests are made of this point alone under conditions in which all other factors are rendered constant. Ferrer is inclined to ascribe the benefit of the kerosene flame, whatever there may be and largely attributed to the yellow quality of its light, to the low intrinsic brilliancy.

C. ZIMMERMANN.

DEFECTIVE VISION IN SCHOOL CHILDREN FROM AN ECONOMIC STANDPOINT. Wessels, L. C., (Fourth Internat. Congress of School Hygiene, Buffalo, August 29, 1913), emphasizes the importance of municipalities establishing their own eye clinic for refracting and the furnishing of glasses free to at least poor pupils. This is an economic problem rather than a charity, as it reduces the cost of education and increases the efficiency of both the pupil and teacher at the same time. The Department of Public Health and Charities has solved this problem in Philadelphia by establishing a Division of Ophthalmology under the Bureau of Health, where poor children can be refracted and furnished with glasses free. From 1908 to January 1, 1913, Wessels has examined 8,167 school children and refracted under a mydriatic 7,319 and furnished 6.310 pairs of spectacles free to poor children. Out of 7,319 cases refracted 5.211 or 72% were backward, representing a composite loss of 11,831 years, as the children did not reach the eighth grade in the required time, or a money loss of $414,-685.00. Now over 2,500 cases are refracted a year. If each one of these children is saved but one year during its entire school life the city saves over $87,000 annually not counting the child's time and its increased efficiency. So the furnishing of free glasses to school children is not a charity per se, but is a duty and an economic problem.

C. ZIMMERMANN.

MUCOCELE OF THE FRONTAL SINUS AND THE ETHMOIDAL LABYRINTH WITH SUDDEN INTENSE EXOPHTHALMUS. Kuhnt, H., Bonn., (Zeit. f. Aug., 33. p. 64). reports, after an excellent exposition of the clinical picture of this disease, a very interesting case. In consequence of a severe contusion of the right side of the forehead, which produced a traumatic sinusitis and fissures of the orbital roof, a mucocele of the frontal sinus developed, gradually spreading to the anterior and middle ethmoidal cells. The high pressure of the mucocele widened the fissure into which the mucous membranes of the frontal sinus bulged like a hernia. During severe physical strain it was punctured by the pointed edges of the bone, so that contents of the mucocele oozed out and detached the periosteum from the periorbita to the optic foramen and the orbital fissures. Almost immediately intense exophthalmus with inflammatory swelling of the lower frontal region, the upper lid and the contents of the orbital, followed. The lids could not be closed, so that the epithelium of the cornea suffered with subsequent infiltration and abscess of the cornea. After these conditions were ascertained by a diagnostic temporary resection of the lateral wall of the orbit according to Kroenlein, the radical operation of the frontal sinus according to Kuhnt's method was performed.

C. ZIMMERMANN.

A TEXT BOOK OF DISEASES OF THE NOSE AND THROAT. Kyle, D. B., Philadelphia. 856 pp., with 272 illustrations, 27 of them in colors. Fifth edition, thoroughly revised and enlarged. W. B. Saunders Co., Philadelphia and London. 1914.

In the galaxy of recent text books on diseases of the nose and throat the new edition of Kyle's work occupies a prominent place, on account of its completeness, based on a large experience, and clear presentation of the subject. At it addresses not only the specialist, but also the general practitioner and student, each chapter is complete in itself, giving in it all the matter desired. In almost every chapter alterations and additions have been made, e. g. general consideration of mucous membranes, ocular symptoms in diseases of the nasal cavities, syphilis, complications in ethmoiditis and frontal sinusitis, etc., and entirely new articles have been added: vaccine therapy, salvarsan, etc. The sections on operations, e. g. of the tonsils, corrections of septal deformities, have been thoroughly revised, and the surgical technic brought to date. The table of contents and index are very complete and the external appearance, print and paper very good.

C. ZIMMERMANN.

ON CHANGES OF THE OPTIC NERVES THROUGH ARTERIOSCLEROSIS AT THE BASE OF THE SKULL. Heinrichsdorff, P., Breslau., (Klin. Mon. f. Aug., 53, p. 513), found at the autopsy of an old woman, who had died under the symptoms of hemiplegia, deformations of both optic nerves at their entrance into the optic foramina, caused by the grotesque carotid arteries. The cross section of the right optic nerve had the form of a crescent, with the concavity downwards and to the medial side from the compression by the carotid. The left optic nerve was forced to the medial side, its lateral margin attenuated, and had the shape of an isosceles triangle.

C. ZIMMERMANN.

INJURIES OF THE EYES BY RIFLE BULLETS DURING THE GREEK-TURKISH AND GREEK-BULGARIAN WARS. Cosmettatos, G. F., Athens. (Archiv. f. Aug., 78, p. 129), treated out of 118 injuries of the eyes 43 caused by bullets, viz.: 6 slight injuries of the cornea, 17 complicated lesions of the eyes and adnexa, as 2 of the lids and lacrimal canaliculi. 1 of cornea and iris, 2 of sclera and iris, 3 of vitreous, 1 of chorioid and ocular muscles, 2 of chorioid and optic nerve, 1 of retina, 2 of optic nerve, 1 of optic nerve and retina, 2 of visual centres, and 21 total destructions of the eyes, which are described in detail. 16 out of the 43 cases lost sight, 9 completely, 7 partially, and if the 21 total destructions are added, altogether 37.

C. ZIMMERMANN.

Next Meeting, Oshkosh, October 7-9, 1914

THE WISCONSIN MEDICAL JOURNAL

Owned and Published by the State Medical Society of Wisconsin

A. W. MYERS, M. D., Editor
J. P. McMAHON, M. D., Managing Editor

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[Entered as second class matter, June 30th, 1903, at the Post Office at Milwaukee, Wis., under Act of Congress March 3rd, 1879.]

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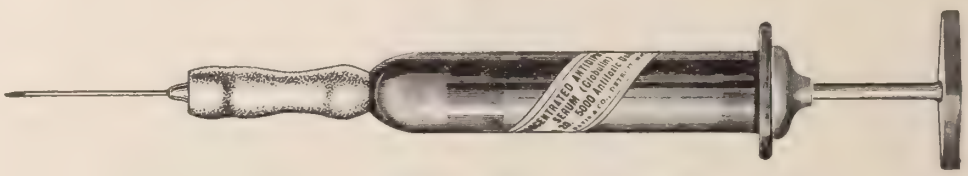

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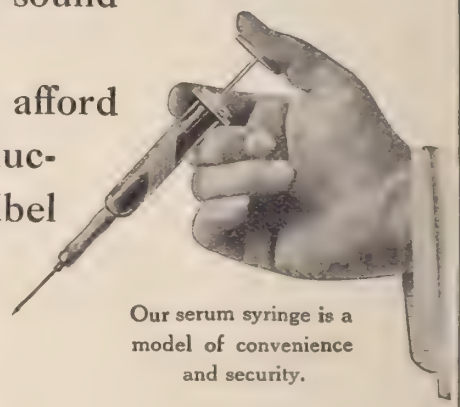

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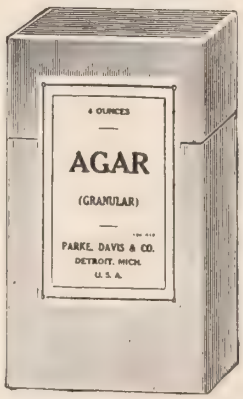

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